

32755

No. 0524



Social Protection Discussion Paper Series

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Richard P. Hinz and Anca Mataoanu

May 2005

Social Protection Unit
Human Development Network
The World Bank

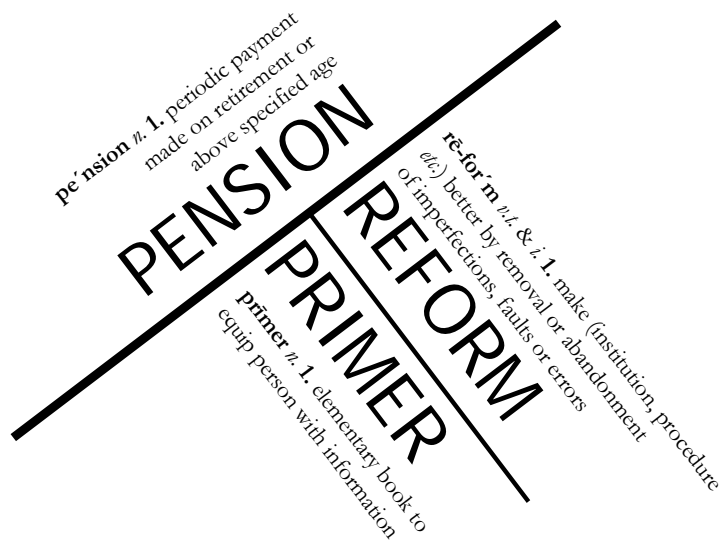
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Richard P. Hinz

Anca Mataoanu

Richard Hinz is a Pension Policy Adviser in the Human Development Network's Social Protection group (HDNSP) of the World Bank

Anca Mataoanu is Consultant working with the Human Development Networks Social Protection group in the Middle East and North Africa Region (MNSHD) of the World Bank

Abstract

This paper proposes an approach to classifying and measuring the primary elements of private pension supervision and undertakes an evaluation using a representative set of countries. The analysis considers how supervision methods and style relate to the basic design of pension systems and the broader environment in which they operate. Supervisory systems are shown to include six main elements, with considerable variation among systems in the scope and intensity of activities within each element. The analysis concludes that there are discernible relationships between supervisory methods and the context in which they are applied. The level of economic development, depth of capital markets, underlying legal framework presence of mandates, and number of funds supervised are found to be associated with depth and intensity of supervision activities. These findings support the principle that the organization and management of private pension supervision is significantly derived from the context and environment in which these systems operate.

Introduction

Over the past two decades, privately managed pensions have expanded from the exclusive purview of the wealthiest nations and a handful of colonial legacies, to playing a central role in retirement income worldwide. An explosion of private systems emanated from Latin American and Central and Eastern Europe in the 1990's, as middle-income countries in transition struggled to find alternatives to financially unsustainable public systems and to establish pensions with labor market dynamics and incentives structures compatible with current demographic realities. Developing countries are increasingly attracted to private pensions because of their ability to provide a viable means to create high income replacement rates for the formal sector and higher earning workers, and by their potential to mobilize capital to facilitate financial market development and stimulate growth.

The design and operation of the private pension systems are as varied as the settings and motivations behind them. All share extensive regulatory and supervisory systems that seek to establish and enforce a framework that enables them to function fairly and efficiently, and to provide a high level of security. Although there is a growing body of work on the theory and economics of private pension systems, this tends to be focused on the financial implications and consequences of these arrangements, rather than on understanding their operation and oversight. Very little consideration has been given to the way private systems are supervised and to the factors that determine relationships between the design of a private pension systems, the environment in which they operate and the manner in which supervision is most effectively undertaken.

Private pension funds have now successfully been implemented in a wide range of settings and circumstances. The extent of variation observed in the structure and operation of supervisory programs throughout the world inevitably raises questions about optimal design and best practices. Commonality of objectives suggests greater similarity in approaches than is evident in experience. Despite this variation in organization and practice there is, at present, no compelling evidence of the inherent superiority of any one type or style of pension supervision. This suggests that differences in the organization and operation of pension supervision programs are substantially a function of the extent to which they are aligned with the environment in which they operate. An analytical framework that identifies the primary elements of private pension supervision and evaluates these in relation to factors that potentially explain differences in how they are implemented in various settings is therefore useful to understanding the nature of the supervisory process and in the design and initial implementation of private pension systems.

A Theoretical Framework

The existing literature on supervision of banking and insurance provides a starting point to evaluate pension supervision and define a set of hypotheses to guide the analysis. This makes a clear distinction between regulation and supervision. Regulation is defined as the establishment of specific rules and standards, and supervision as the process of implementing the system and enforcing compliance with the rules. The reasons and benefits of using such distinctions are discussed extensively in the literature. (Llewellyn, 1999).

A first hypothesis that guides the analysis is that discernable patterns define and characterize several distinctive approaches or “styles” of supervision. These patterns are generally differentiated by the degree to which the regulation and supervision are proactive and its’ overall depth and intensity. Previous evaluations of pension regulation and supervision distinguish between two primary “styles,” a typically Latin American proactive approach, and an older Anglo-American re-active model. (Demarco et al, 1998), (Rocha, Hinz, Gutierrez, 2000), and (Vittas, 1998). A key issue in the analysis is whether these represent distinctive modes of supervision or they simply define the ends of a continuum of possible approaches.

Work on the development of financial systems by Franklin Allen and Steven Gale, points to a relationship between the stage of a country’s economic development and its ability to rely on market mechanisms for financial sector supervision. An underlying motivation for all financial supervision is to address the inability of market mechanisms to address moral hazard and agency problems. A second hypothesis is that supervisory activities are a function of the country’s stage of economic development, that more developed economies are more readily able to rely on market mechanisms and institutions to enforce the integrity of financial intermediaries such as pension funds. It is therefore anticipated that the degree of openness and a more re-active approach to supervision is strongly linked to levels of development. The same logic applies to countries where markets are open and many participants enter to provide advice or products to the consumers of pension services. In these markets, the intensity of the efforts of the supervisors typically face a capacity constraint and supervisors must rely on other methods to facilitate voluntary compliance with regulation.

The debate on the link between the stage of economic development and the structure of financial systems is frequently connected in the literature with discussions about legal traditions and the typology of legal systems. Levine (1998, 1999) and (Levine et al 1999) trace linkages from legal origins to financial development and economic growth. Specifically, they find that legal origins account for cross-country differences in the financial development of bank and stock markets and explain international differences in long-run rates of economic growth, potentially relating legal systems and traditions to the organization and intensity of pension supervision.

The importance of a strong “Rule of Law” and governance for financial system stability has been recognized and explored by various authors. A technique for the measurement

of the rule of law has been developed by Kaufmann and Kraay. (Kaufmann et al, 2003). A hypothesis derived from their work is that governance and strength of “rule of law” are important determinants of the degree to which countries can rely on the market or external parties to carry out supervisory activities.

Another factor relevant to the approach to supervision is the degree to which participation in pension systems is mandated or voluntary. Mandated pension systems require a large number of typically unsophisticated members to engage in enforced savings through pension funds, usually with the underlying economic risk born by the participants. These types of arrangements can be expected to require higher levels of security and consequently a more pro-active, intense supervision.

The working hypotheses may therefore be summarized as:

1. There are consistent patterns and relationships that characterize areas of emphasis and the overall intensity of pension supervision.
2. There is a relationship between the stage of a country’s economic development and the intensity of the pension supervisory activities.
3. Countries with a large number of supervised entities cannot be comprehensive and must rely on other methods to facilitate voluntary compliance.
4. The underlying type of legal systems and traditions is associated with the intensity of pension supervision.
5. Governance and the strength of “Rule of Law” are important determinants of the degree to which countries can rely on the market to carry out pension supervisory activities.
6. Mandatory pension systems require more pro-active, intense supervision.

Primary Elements of Supervision

Consideration of the factors that influence the design and operation of pension fund supervision requires the formulation of a framework to organize and classify the elements of these programs. This provides a framework for differentiating and evaluating the programs on the basis of variations in the way that the elements are implemented that enables a comparative analysis to discern potential explanatory factors.

The first step in this process is to identify and describe a set of primary functional elements (or typology) common to supervision programs. Values based on an assessment of the depth and intensity of activities within each category are then assigned to each category across the representative sample of countries to provide a basis for a comparative evaluation.

The activities of pension supervisors can be considered in six primary categories: (1) licensing, (2) monitoring; (3) analysis; (4) intervention; and (5) correction and (6) communication. Each of these is briefly described below.

1. Licensing

Licensing activities restrict and control entry to the pension market through procedural requirements and criteria. These are commonly applied to pension funds or the entities that are permitted to sponsor or operate them. They can also be extended to individuals who perform important functions in the pension system, for example trustees, or to firms or individuals that are qualified to provide services, for example, to actuaries who evaluate the status of defined benefit plans. The modalities in which this function is exercised differ widely across different systems but in essence they all make use of a set of predetermined criteria to establish an entry barrier or select a limited number of entrants.

Licensing is generally directed toward managing the risk of incompetent or unqualified entrants to the market or to insure against the results of negligent or risky behavior by imposing capital or bonding requirements. It may, however, also have the purpose of limiting competition or ensuring economies of scale in pension markets. Licensing can also be seen as a mechanism to ensure public confidence in the private pension system, by applying transparent standards and establishing security to warrant the integrity of funds.

Licensing is differentiated among pension systems by its restrictiveness, depth, and periodicity. Some systems have virtually no entry barriers while others have very complex and strict standards applied by the supervisor. Licensing can be incident to all participants before they enter the market, only to some participants, depending on their size or the structure of their assets, or to none of the participants. Also, in cases where licenses are issued, they can be issued only once (for the life of the supervised entity) or they can follow a process of renewal with a yearly (or potentially even greater) frequency.

2. Monitoring

Monitoring activities collect information to enable the supervisor to track the status and actions of the pension funds within its jurisdiction. Monitoring commonly takes the form of required submissions of information on a regular basis or periodic reports to the supervisor. It also includes a range of other reporting requirements or more active forms of information collection. The common attribute is the provision of information that will either provide the basis for judgments or actions by the supervisor, or through its provision or disclosure make the activities of the pension funds more transparent. Potential recipients and users of monitoring include supervisors as well as the members of funds.

Monitoring activities can be defined in terms of both the scope and content of the information that is collected as well as the mode of collection. Common types of information collected include financial statements, schedules of transactions, information on individuals responsible for important aspects of fund operations (trustees, administrators, Boards of Directors), actuarial analyses and information on the sponsors of pension funds.

Monitoring is often a passive activity on the part of the supervisor in which information is required to be submitted by the relevant institutions or individuals. It may also be a pro-active function in which the supervisor periodically goes on site to collect specific or supplementary information. Supervisors may also monitor the media for information, have regular exchanges of information or consultations with other supervisors, and have regular programs of meetings with pension funds to collect information. An important form of monitoring is establishing venues for individuals or fund members to communicate with the supervisor and to request scrutiny of a particular fund or activity. A distinctive type of this approach are the so called “whistleblower” requirements of some systems, which assign responsibility to certain individuals or parties to report knowledge of improprieties to the supervisor. Some monitoring systems also use independent third parties such as auditors or credit rating agencies to produce or verify information.

Monitoring varies in terms of the type, scope, and depth of the information that supervisors seek to utilize, as well as the parties who provide the information and the periodicity of the collection of information.

3. Communication

Supervisors engage in a full range of activities to communicate with pension funds. These are essentially the complement to monitoring activities in which the flow of information is from the supervisor to the funds. This can make it difficult to cleanly separate the two in many instances. Supervisors may communicate with the funds through the provision of regular reports on the industry, by announcing their priorities and compliance strategy, or by publicizing compliance actions. They may also engage in interactive communication by placing inspectors on site and engaging in daily communication, by meeting regularly with the funds to discuss issues of mutual interest or through more formal processes in which changes in the activities of the funds are suggested and issues resolved through negotiation. Supervisors may also undertake programs of outreach, education, and training to enhance the knowledge of the legal requirements or operation of pension systems. Supervisors often seek to communicate with a range of parties including fund managers, service providers, members, and the public.

Communication activities of supervisors have a wide range of goals and objectives. Some communication programs may have the purpose of informing pension funds about the intent and nature of the supervisor’s activities to maximize the capacity for cooperation and make the interactions with fund more efficient. Others are intended to advance the understanding of the regulatory structure as well as rights and responsibilities of funds and their members to facilitate compliance with the rules or to advance the exercise of individual rights of action by members. Communication may also be intended to leverage resources and establish a climate of deterrence among funds by publicizing the enforcement actions of the supervisor.

Basic types of communication by supervisors are:

Disclosure is a means of communication with the public. Supervisors make public a portion of the information they receive, process, or issue, in publications and individual disclosure notes. Disclosure programs are typically designed to provide the basis for individuals to scrutinize the activities of pension funds to support private rights of action, to ensure that funds are exposed to scrutiny to provide a deterrent to prohibited actions or to enhance competition among funds. The utilization and reliance on disclosure and the nature of these programs are key indicators of the degree to which supervisory systems are reliant on indirect forms of compliance enforcement and market forces rather than directive interventions.

Outreach and education activities are communication efforts undertaken by supervisors to raise the awareness of the operation and requirements of pension systems. These may be directed to the public and members of the pension funds to educate them about their rights and responsibilities under the law, or to the industry to raise the awareness of compliance issues or understanding of the supervisor standards or operations. These may take the form of publications, websites, or regular programs of consultation with the industry, on an individual or collective basis. Similar to disclosure, the nature and extent of outreach and education programs are indicative of the underlying style and approach of supervision. Systems with few efforts to interact in this manner will typically be more directive in nature, relying nearly exclusively on action by the supervisor, while programs with extensive outreach and education activities place greater weight on the role and action of third parties in the supervisory process. These types of programs are also a form of preventive rather than remedial supervision, because their ultimate goal is to educate practitioners about how to remain in compliance and to deter problems by enhancing the capacity of third parties to provide oversight.

Training. In some countries, the supervisor also provides more formal training to ensure that the managers of pension funds are adequately prepared, or as a specific requirement prior to some form of licensing or entry control. This may be general training on the laws or a response to significant changes or on specific areas of fund operation such as: risk-management and investment practices, criteria to evaluate third-party service providers; and compliance with technical regulatory requirements.

Communication is differentiated among pension systems by the scope and purpose of the activities. Supervisory systems that impose strong controls and have little reliance on external or market processes are very directive in their communication with funds regarding compliance issues, and they are likely to engage in few activities designed to facilitate compliance or enhance deterrence. Systems with more procedurally oriented standards or a greater reliance on external processes will engage in a more interactive communication process. They will typically have far more extensive outreach and education programs that support negotiated settlement of compliance issues and rely on deterrence and third party actions to support direct compliance activities.

4. Analysis

The manner and extent to which supervisors analyze and evaluate the information they receive from pension funds is usually closely linked to the system's legal and regulatory approach. Legal frameworks that are based on quantitative standards lead supervisors to extensive measurement efforts that compare funds' financial status and activities to normative standards. This often involves complex calculations of individual funds that may be undertaken as frequently as daily. Pension systems founded in the Anglo Saxon tradition of trust law tend to be oriented toward comparative analysis, and hence follow a less frequent process of evaluating funds against benchmarks or the behavior of the entire industry. The analysis in these systems may also be less focused on the outcome of financial decisions than the process of decision-making, or in determining relationships among the various parties involved in managing the assets and affairs of the funds.

Measurement and analysis elements of supervision can therefore be evaluated on the basis of the purpose, frequency, and intensity of the activity. Systems that are very intensive and proactive undertake analysis very frequently, with the intent to discern as soon as possible, if not in advance, when the fund may drift outside an established standard of behavior or engage in a violation of the requirements. These attributes may also be associated with risk-based approaches to supervision, in which complex algorithms or "scoring" systems based on extensive calculations may be the basis for decisions about supervisory interventions.

At the other end of the spectrum are systems that are oriented toward keeping funds within a loosely defined and often situational or relative set of standards. Here analysis is far less frequent or intensive. This represents an approach that relies more on external or market forces, or, in some circumstances, on the presence of extensive regulation and oversight of other aspects of financial market operation.

5. Intervention

All supervisory programs are continually faced with decisions about whether and how to intervene in the operation of pension funds. It is often difficult to separate intervention from some of the key aspects of the communication with the funds. Interventions may take the form of explicit requirements for the fund to either undertake, or desist from engaging in, certain activities that carry the force of law and must be complied with immediately. In other systems interventions may be in the form of findings that are presented to the funds for a response. The process of intervening in these circumstances is likely to be in the form of negotiations in which issues are resolved, or a process of litigation through the civil courts, where the ultimate resolution is reached through a judicial process.

A key issue that defines the nature of interventions is the force of authority given to the supervisor and the nature of the process through which interventions occur. In some countries, the supervisor simply has the authority to intervene when a finding is made that a fund is, or may be, approaching non-compliance. Fund managers may in some cases be provided with very little if any recourse to negotiate or appeal. In other

countries, the supervisor has little capacity to unilaterally impose sanctions and instead intervenes through a far less directive process of consultation, notification and perhaps negotiation. The most basic and important feature of the notification of compliance actions is the manner in which individual funds are notified by the supervisor when they are deemed to be out of compliance with legal requirements. This can range from regularly scheduled interaction that may occur as often as daily in some countries, to formal notices. In some cases there are simply directives from the supervisor to the fund to make changes. The manner of this sort of intervention and the nature of the process that follows, whether it is completely directive or a form of negotiated settlement, is perhaps the aspect of the supervisor's activities that most defines the nature and style of supervision. Another key variation is the involvement of third parties in interventions. Some systems require that all actions be taken through the courts. Others establish a formal process of appeal to a specially constituted group.

Interventions by supervisors are therefore differentiated partially by the degree to which they are pro-active or occur only after conclusive evidence of non-compliance is established. They are also distinguished by the extent to which they are directive and represent the unilateral exercise of authority to which there is little or no appeal, or conversely are a process of negotiation and adjudication.

6. Correction

As is the case with any form of compliance enforcement, the ultimate, and perhaps most important, element of pension supervision is the capacity to take corrective action. Although this may seem conceptually difficult to separate from intervention, the range of types and purposes of corrective action may vary across supervisory systems that are otherwise quite similar. The variation in the type of corrective actions that a supervisor may take, however, makes it an important element to evaluate on its own.

There are essentially three types of corrective actions: punitive, remedial, and compensatory. Supervisory programs may engage in all three types or may be limited exclusively in their authority to only one. Punitive actions are designed to impose penalties on the funds for actions deemed adverse to interests of members. They are distinguished by both form and intent. Penalties are usually fines that are paid to the supervisor and may be retained by the authority or become part of public revenues. Their intent is to establish deterrence and punish behavior outside of the standards.

Remedial actions are those taken by a supervisory authority to remedy the consequences of a failure to comply with the law. These are essentially a way to reverse the outcome of non-compliance. Remedial sanctions may simply be require the fund to return to a prior status or to cease certain actions. In some cases, this may involve financial sanctions that are limited to rectifying any direct result of negligence or malfeasance by responsible parties. They may also be applied to correct abuses of the favorable tax status afforded to pension funds or harm suffered by parties that may have been involved in transactions with the funds. The primary intent of these corrective actions is to rectify any direct

negative outcomes and prevent a recurrence. There is, of course, a deterrent effect that will result from this approach, but it is more indirect.

Compensatory corrective actions go beyond the remedial outcomes and seek to compensate aggrieved parties for both the direct and indirect effects of violations. Rather than simply reversing the outcomes, these are intended to compensate affected parties for the consequences of actions determined to be inappropriate. Compensatory damages will typically be in conjunction with remedial actions and effectively compensate for any damages. These types of actions have a strong deterrent intent, but they also have the purpose of ensuring that harm is minimized.

Corrective activities of supervisory systems are distinguished by the degree to which they are solely focused on remedial outcomes, correcting problems as they occur, or whether they extend into the arena of compensation and punitive provisions that attempt to establish a more self-enforcing regime of deterrence.

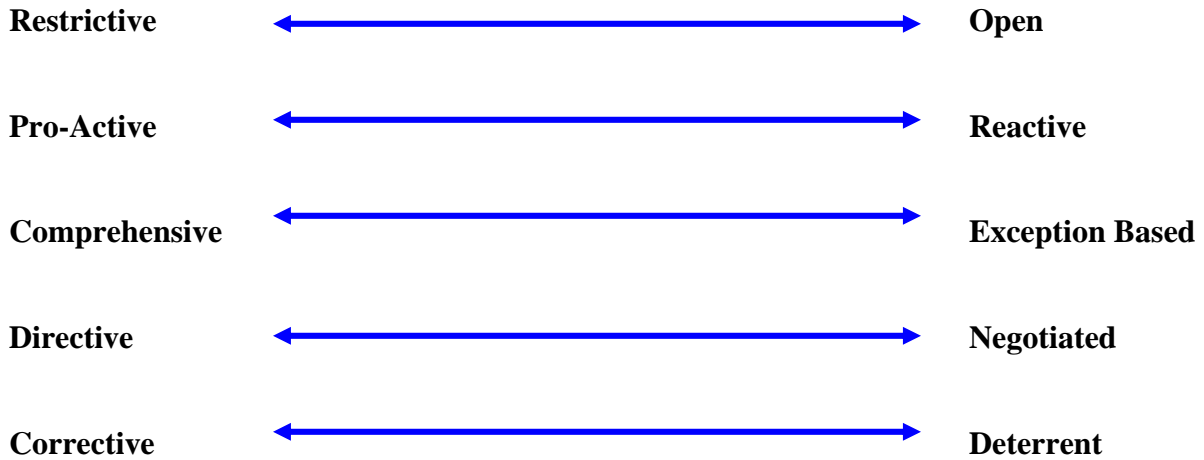
Methodology

Comparative analysis of the attributes of the supervisory programs of different countries requires the development of a method to assign descriptive values to each of the primary elements. To achieve this, an approach that assigns a summary value from 1 to 5 for the intensity of activities within each of the elements was developed. These values are then compared with some of the characteristics of the pension system and basic information about the macroeconomic and developmental environment in which it operates to assess whether any indications of relationships between design, context, and supervisory practices can be found.

The summary score for each element is derived from a set of five attribute scales that measure the degree of intensity and intervention. This approach is taken because supervisory systems represent an array of attributes deemed to represent a set of choices made along a spectrum of possible alternatives. Although each function of a supervisor could conceivably be assigned a unique descriptive scale along which it would be placed, there is sufficient commonality in the purpose and nature of the elements to allow them to be condensed in to a set of common scales, one or more of which is applied to each element. The score for each element is assigned by considering factors such as the frequency of reporting; the amount and type of information reported to the supervisor; the amount of analysis that underlies supervisory decisions and interventions; the degree to which the supervisor has authority to unilaterally direct funds to take certain actions; the intensity and direction of communication activities; and the overall regime for the application of sanctions.

The five scales that describe the attributes of supervision are shown schematically below:

Figure 1: Intensity Scales for Pension Supervision Activities



This approach is selected because it describes the full range of the attributes that are observed among supervisory systems and also because it does this in a manner that evaluates the elements in relation to the degree to which they represent interventions to address market imperfections or to directly secure the interests of pension fund members. A score of 1 represents elements that are implemented with characteristics shown on the left side of the scales and a score of 5 represents elements deemed to be consistent with the characteristics on the right side.

These scales are consistent with analysis of supervisory styles and methods outlined in the limited literature on the subject. All of the values on the left side of the scales represent supervisory methods that have been previously described as “draconian” (Vittas, 1998) “pro-active” or “highly prescriptive” (Rocha, Hinz and Guiterriez, 2001)) while those on the right as flexible or reactive. They effectively differentiate on the basis of the depth, intensity, periodicity and intent of the supervisor’s activities.

The following provides a practical illustration of how the scoring mechanism works in the context of the scale of attributes described above.

Restrictive systems impose high entry barriers in which the supervisor requires the submission and validation of extensive information prior to the licensing or approval of initial operation of pension funds, trustees, pension fund managers, custodians, etc. Market entry is generally restricted to a small number of entities that meet rigorous standards. In our scoring scheme, such a system would receive a score close to five for the Licensing and Analysis functions. A score of one, by contrast, is assigned in opposite instances where there is no (or minimal) involvement of the supervisor in assessing the qualification of funds or other relevant participants for market entry. Such systems are sometimes characterized as open and the approach of the supervisor is deemed to be reactive.

Supervisory environments are reactive or exception-based when the supervisor has little or infrequent interaction with the supervised entities and intervenes, in a remedial fashion, only to restore compliance with the legal standards. In such regimes, intervention is often triggered by external signals like whistle-blowers or auditors rather than arising as a result of the regular monitoring of conducted by the supervisor.

At the other end of the spectrum, supervisors are perceived to be proactive when they intervene on a regular basis in order to preemptively address violations of standards or to prevent what is perceived to be undesirable behavior. This sort of approach typically involves intensive interaction between the supervisor and the pension funds through frequent of collection of information and consultations on issues such as investment management decisions.

The exercise of supervisory authority can range anywhere from a directive, unilateral intervention in restoring compliance to a negotiated, participative process. The actual position between these two extremes depends on the nature and scope of authority provided to the supervisor, it's degree of independence and the availability of legal venues to enforce compliance and impose sanctions.

Cross – Country Evaluation

This section describes pension supervision in eight countries, within this analytical framework. Each country description is followed by a chart that displays the intensity of supervision activity on a scale of one to five for every functional element using the methodology described above.

Australia

The retirement system in Australia consists of three pillars: a means-tested, taxpayer financed old age pension; a mandatory tax-supported occupational superannuation¹ plan, and a voluntary pillar. Superannuation schemes are structured as trusts, in the tradition of the English Trust Law. The Australian Prudential Regulation Authority (APRA) is an integrated supervisor for the entire financial system² that overlooks the activity of a superannuation system with over 11,433 funds holding assets of over \$300 billion.

In Australia, the supervisory system is viewed as very open. Many of the superannuation funds can enter the market without going through any kind of licensing procedure,³ while others must only seek approval for their trustees.

¹ In Australia the term superannuation is preferred to pension for historical reasons – retirement benefits used to be paid as lump sums at retirement. (OECD report)

² APRA supervises banks; securities; insurance companies; and pension funds. The Australian Securities and Investment Commission and the Australian Tax Office share some superannuation supervisory responsibilities with APRA.

³ There are approximately 3000 funds that sis not require approved trustees to enter the market. (APRA)

APRA monitors information obtained from trustees and informal sources like the media and whistle-blowers. The monitoring activity has relatively low intensity, since the flow and amount of information that is reported and disclosed to APRA is fairly limited. It is mandatory for superannuation funds to submit regular financial statements known as statutory returns on a yearly basis. Those funds that use derivatives for hedging risk also submit risk management statements, disclosing their policy towards managing portfolio risk.

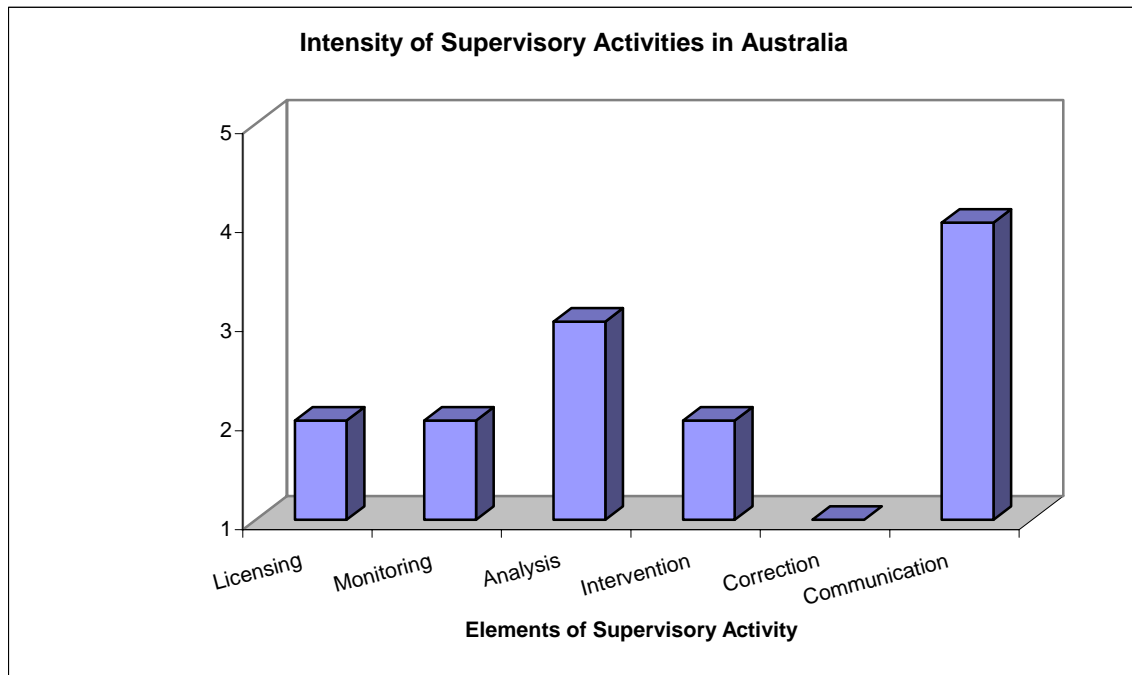
Most of the responsibilities regarding disclosure of information to members, handling complaints on members' rights, decisions regarding portfolio management, and measurement of results are handled by the pension trusts themselves. In this respect, APRA's role is very limited, suggesting a rather reactive, exception-based approach. Moreover, the trustees themselves widely out-source these responsibilities to specialized financial service providers, adding another layer of intermediaries to the process. APRA is not involved in checking the performance of these intermediaries.

Although the monitoring, analysis, and most of the communication function that APRA carries out are reactive, the outreach component of the communication function is highly intensive. APRA publishes a very large amount of material on superannuation policy as well as performance measurement of funds and makes this easily accessible on its web-site. It has also initiated an international outreach effort to share experience with other integrated supervisors around the world. APRA reaches out to trustees providing training and guidelines of compliance with regulation, principles for safe administration, reporting and disclosure.

In terms of intervention, in October 2003, APRA began to implement a risk based approach aimed at tailoring the frequency and the intensity of interactions with pension funds to the risk profile of the supervised entities. APRA estimates risk-profiles based on several indicators including the probability of fund failure, the impact of an eventual failure and the quality of fund management although it is early in the implementation process, it is likely that this approach will reduce the number of interventions with funds, and it promises to increase activity in the more preventive-oriented supervision functions like monitoring, communication, and analysis.

In the context of our conceptual framework, therefore Australia's pension supervisory systems is classified as open, with moderately reactive monitoring, communication, and analysis functions and a moderately corrective intervention mechanism. The introduction of the risk-assessment tools will gradually cause APRA to become more proactive in communication, monitoring, and analysis with the stated goal of preventing rather than correcting behavior.

Figure 1-1



Box 1: PAIRS&SOARS: A risk based assessment approach to supervision.

The Australian Prudential Regulation Authority introduced in October of 2003 a risk-based approach to the performance measurement and analysis activities inherent to pension fund supervision. This new approach is based on two central tools: The **Probability and Impact Rating System (PAIRS)** and the **Supervisory, Oversight and Response System (SOARS)**.

PAIRS – Probability and Impact Rating System (see Annex) is APRA’s main risk measurement tool . It is currently applied to roughly 3000 regulated entities. and generates two estimates: the probability of fund failure, over a five year horizon, and the impact of entity failure, should it occur.

The probability of fund failure is obtained by looking at the ability of fund to manage risk and its capital position. An precise measure of the funds ability to manage risk is difficult to ascertain but an estimate is calculated by analyzing the internal systems for corporate governance, the degree of internal compliance; the composition and performance of the board and executive management etc.

The impact of entity failure is calculated as a measure of the entity’s size and of the amount of assets it administers.

SOARS – Supervisory, Oversight and Response System (see Annex) is APRA’s tool to determine the level of intervention that fits best the “risk-profile” of the supervised entities, obtained by using PAIRS. To each of the four supervisory stances prescribed by PAIRS, SOARS prescribes corresponding mandatory interventions. For “normal entities” the regular schedule of on-site inspections every two years is applied. For “oversight entities” APRA imposes stricter capital requirement provisions; engages more in communication and performs more frequent visits. “Mandated Improvement” entities receive vigorous intervention and “Restructure entities” have their business transferred to other entities while protecting the interests of participants.

This system is too new to be able to have any relevant performance measurement. It would be very interesting to monitor its activity in the future and obtain information on the accuracy of the predictions based on the actual data from the entities, especially on the probability of failure.

Another thing that would be important to observe is the performance of the entities after the APRA interventions dictated by SOARS. It would be useful to assess whether this system actually improves the efficiency of the organization allows a better allocation of supervisory resources.

If positive effects emerge after careful examination, attention should be given to the possibility of implemented similar instruments in other countries, where the environment permits.

United States

The United States has a universal public Social Security system that targets a modest replacement rate of 40% on average. This is supplemented by an extensive voluntary occupational pension system that includes more than 700,000 privately managed funds. These funds are regulated and supervised by the tax authority, the Internal Revenue Service, which administers provision related to the minimum funding and distribution, and terms of benefits required to qualify for preferential tax treatment and the Employee Benefits Security Administration (EBSA) of the US Department of Labor that administers the provision related to standards for the investment and management of assets and the reporting and disclosure of information.

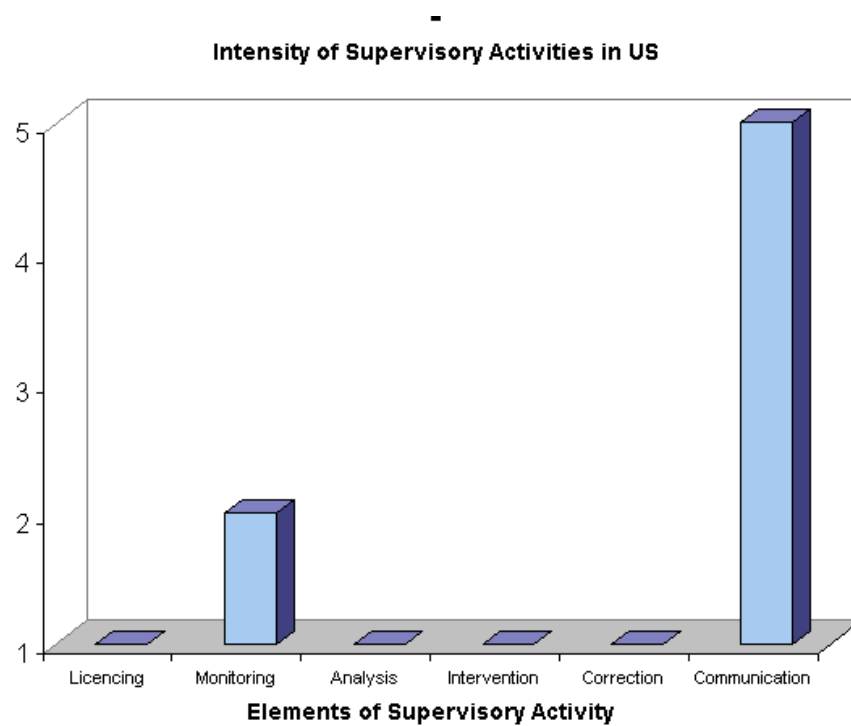
The system is fully open with no requirement for licensing or advance approval of private pension fund to operate. The supervision of the system is highly re-active with interventions occurring almost exclusively on an exception basis. The supervisory authorities primarily intervene on the basis of specific requests or information indicating problems with a particular employer or pension plan. The supervisory system is moderately oriented toward monitoring and disclosure with requirements for the provision of extensive financial and operating information. This, however, is only provided annually or on a less frequent basis for the smaller plans. The supervisors have a limited analytical and evaluation programs that are largely used to identify possible problems for further investigations rather than as the basis for any corrective actions.

The supervisory system in the US is strongly oriented toward information disclosure and private rights of action rather than extensive interventions by the supervisory authorities. Similarly it relies on private auditors for the verification of the completeness and accuracy of financial disclosures rather than direct oversight.

The system provides very limited capacity for pre-emptive interventions and corrective actions, generally requiring supervisors to notify pension funds of a finding of violations of the law and often achieving corrections through negotiated settlements. The supervisors have relatively weak authority for corrective actions and must bring civil actions through the courts when unable to negotiate resolution of issues. The law provides no capacity for the supervisors to impose punitive or compensatory sanctions beyond the imposition of modest penalties and excise taxes for certain types of violations of the law.

In recent years, supervisors have become increasingly oriented toward education, technical assistance and voluntary compliance programs in which they attempt to prevent problems by educating practitioners about the law and raising the awareness of individual participants about their rights and responsibilities to monitor the activities of their employer's plans. Supervision in this system is therefore characterized by a strong emphasis on communication.

Figure 1-2



Box 2:**Prudent-Person Rule:** Definition, origins and basic considerations.

The prudent person rule is used increasingly as a behaviorally-oriented standard for participants in financial markets as a building block for governance systems.

An acceptable definition of this rule is: *“a fiduciary must discharge his or her duties with the care, skill, prudence and diligence that a prudent person acting in a like capacity would use in the conduct of an enterprise of like character and aims”*.

The prudent person rule originates in trust law where the institution of “trust”, which is usually a mass of assets is managed by the “trustee” for the benefit of a another person. The prudent person rule designates responsibilities focused on general conduct in administering these assets and not on the results of the administration process.

The prudent person rule generates legal duties and responsibilities that establish fiduciary obligations that seek to minimize potential divergences of interest in relationships where one party is particularly vulnerable to another (principal-agent problem). Effective enforcement of legal liability of this rule is essential for the rule’s successful implementation.

The “prudent person rule” is a good model of governance because it combines obligation and duty with accountability without necessarily invoking the state or its regulatory agencies. It is a simple rule that general enough to avoid conflicts and inefficiencies generated by jurisdictional overlaps and it gives formal status to entities to which it is applied, allowing independence from competing interests and a minimum of intervention in the administrative process itself.

In the context of pension provision, this rule is applied in various ways. In countries that share a trust-based law system, the rule applies to fiduciaries with very little additional quantitative or qualitative restrictions set forth in laws and regulations. In other countries this rule is accompanied by quantitative rules limiting self investments or investments in risky assets or by limitations on the use of custodians, etc.

Since, by definition this rule assigns very general standards of conduct, interpretation is required to ensure on-going compliance and sanction misbehavior. The role of the regulatory agencies in interpreting and implementing this rule becomes crucial for a successful implementation, especially in countries with that have little experience with this concept (code-based law systems).

Ireland

In Ireland, pension provision is managed primarily through occupational and personal voluntary plans organized as trusts. Several institutions have supervisory responsibilities for the pension system but the primary supervisors are the Pension Board for occupational pension plans and the Department of Enterprise, Trade, and Employment for personal pension plans. The Pension Board is a specialized institution that supervises close to 100,000 pension funds holding assets of €44 billion .

As in Australia, the Irish pension system operates by relying heavily on the institution of the “trustee” and the “prudent person rule”. As a result, the Irish system is open, with very few barriers for pension funds to enter the market. The Pension Board does not issue any licenses per se, rather pension trusts get approved by the Revenue Commissioners and register with the Pension Board before entering the market.

On an on-going basis, The Pension Board monitors the activity and conduct of plan trustees and other participants in a passive, reactive manner. The so-called whistle blowers rules play a key role in the monitoring activity of Irish supervision. In Ireland auditors, actuaries, trustees, or other parties involved in the pension provision process have an affirmative responsibility to report potential violations to the authority. One can argue that heavy reliance on whistleblowers means delegating the detailed monitoring activities to them, therefore reducing monitoring responsibilities for the supervisor. This characteristic underscores the highly reactive character of Irish pension supervision. Indeed, the system design places nearly all of the burden of measurement and analysis on the shoulders of the trustees and auditors.

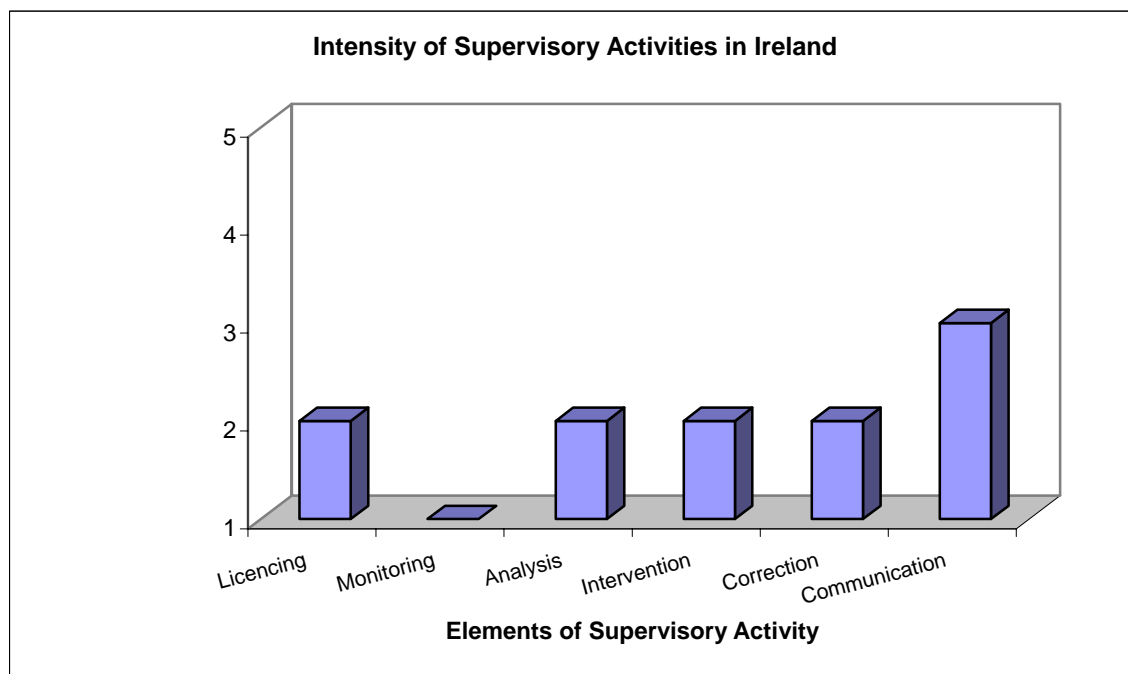
In terms of communication, the Pension Board is not very active. There is a strong emphasis on information disclosure from pension funds and trustees to members, employers, and other participants. There is no requirement to report on a regular basis to the supervisory authorities regarding future investment policies and performance indicators. Trustees must have their accounts audited yearly and have all documents available to present to the supervisor upon request, but there is no interaction during their review. The Pension Board issues guidelines or guidance notes on the duties and responsibilities of plan trustees and codes of practice on specific aspects of their responsibilities. The Pension Board is also involved in the provision of appropriate training for trustees. Much of the communications are outsourced to a separately constituted Pension Ombudsman who investigates and decides complaints and disputes involving occupational pension plans.

Despite the fact that the Pension Board has strong powers to carry out proactive investigations in auditing pension funds for compliance, it does not use this power in

practice. In 2002, only 165 schemes out of a total of 100,000 were audited.⁴ For this reason, we still consider intervention to be highly reactive and exception-based in Ireland.

An interesting feature of the Irish pension supervision system is that the Pension Board is granted wide discretion regarding intervention in the event of non-compliance and very strong correction power. The Pension Board has the power to prosecute offences in court with penalties ranging from fines to imprisonment of trustees. Although there is a high punitive discretion available to the supervisor for instances of non-compliance, these correction and intervention powers are primarily used remedially, to restore lost rights to members or to ensure compliance with regulations.

Figure 2



Hungary

Hungary has a relatively new three pillar system, with a public, mandatory first pillar; a mandatory fully-funded privately managed second pillar; and a third, privately managed, voluntary pillar. The Hungarian Financial Supervisory Authority (HFSA), established in 2000, is an integrated supervisor for the entire financial sector, including pensions. In Hungary, the number of privately-managed pension funds is very small and correspondingly, the market concentration is very high: 6 funds hold 87% of membership and 83% of the total value of assets, which amounted to 1.7 billion Euro in 2003.

⁴ The number of investigations initiated by the Pension Board in 2002 was only 74. This number is very small considering that there are 100,000 funds under its supervision.

The supervisory act which is implemented by HFSA is a proactive structure directed towards ascertaining compliance with regulations by investigating fulfillment of internal control mechanisms of the supervised entities.

Since the funded component of the Hungarian pension system is fairly new, HFSA coordinates a licensing process focused on ensuring compliance with the fairly restrictive legal standards for market entry. Funds have to obtain licenses to establish a fund, to initiate fund operation, to implement the benefit regulations, and to start the provision of fund services. In addition, funds must produce extensive and detailed documentation to obtain these licenses and also must register with the tax authorities and other institutions prior to applying for a license at HFSA. Licenses are now permanent but they replaced a more intense, temporary, licensing arrangement.

HFSA's monitoring activity is very focused since information about transactions are reported daily by the pension funds so the supervisor can check compliance with the strict investment regulations in real time. In practice, transactions are checked randomly but there is a detailed examination of the accounting and internal control systems. HFSA also receives quarterly and annual reports from the funds that support monitoring of fund performance.

In terms of measurement and analysis of the fund's performance, the Hungarian supervisor uses benchmarks of market performance to judge the risk level and the investment performance for the portfolio. These ratios are calculated and reported by the supervised entities. In the future, HFSA is planning to move to a Value at Risk approach for assessing potential risk and allocating oversight resources.⁵

HFSA communicates with the supervised entities in an interactive, negotiated way. It initiates consultations on a regular basis with fund managers, holds information sessions and issues guidelines.⁶ It also reaches out to the entire sector by publishing regular findings on good practices for sustainable fund administration.

On-site inspections and investigations of pension funds are quite frequent and comprehensive, covering a large number of official documents. Currently, there are three types of on-site inspections: comprehensive, targeted, and follow-up. These inspections can even be targeted to one fund or a group of funds.⁷ This situation makes HFSA's intervention activity intensive but less so than in Chile, for example. The fact that most of these interventions are aimed at restoring compliance and the low incidence of

⁵ The Value at Risk approach allows for fine-tuning the risk assessment and reducing both the measurement and the interventional activities undertaken by the supervisor. This measure basically looks at two elements of a pension fund: the probability of failure and the impact of failure. This approach is extensively used in the supervision of the banking and insurance sectors.

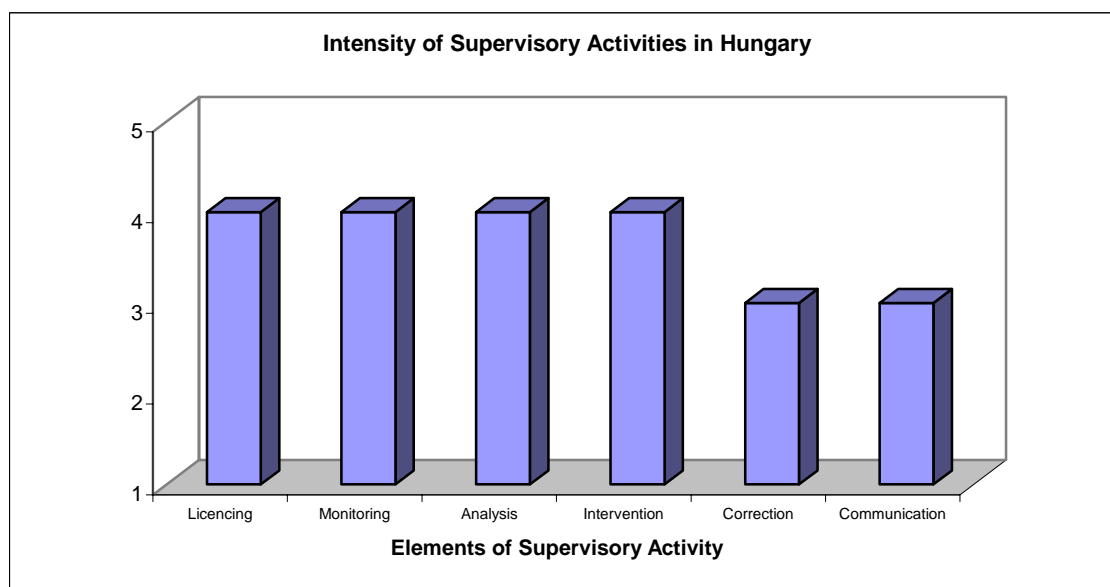
⁶ HFSA reports more success in compliance coming out of this communication activity than from administering punitive corrections like fines.

⁷ The frequency for mandatory pension plans is every 2 years and every 2-3 years for voluntary plans. There were 160 on-site investigations only in 2001

compliance actions indicates that, although intensive, the activity of HFSA is mainly directed toward deterrence.⁸

The primary means of imposing sanctions administered is through the issuance of what are known as resolutions. These are formal pronouncements by the HFSA, stating specific findings of non compliance with the law and standards. These statements inform the supervised entities of their state of non-compliance and suggest corrective actions. Other possible interventions are: suspension of member recruitment; withdrawal of operation licenses, and penalties. The other corrective actions that HFSA applies are aimed mainly at restoring compliance with applicable requirements and preventing the occurrence of adverse events that could affect the financial sustainability of the fund. Very few have any punitive character.

Figure 3



Mexico

In Mexico there are several vehicles for defined contribution, privately-managed retirement savings. The main one is a mandatory occupational pension system for salaried employees. There is also a form of voluntary occupational pension through which employers can offer an additional option to save for retirement. A voluntary personal pension system is also in place, mainly for the self-employed. One of the most important features of the Mexican system is that the management of the funds is separated from the investment activity and entrusted to two separate institutions: the

⁸ There is hope that the need for on-site comprehensive inspections will be reduced with the introduction of the Value at Risk monitoring mechanism.

AFORES,⁹ which are the fund administrators and managers, and the SIEFORES, which are specialized retirement savings investment funds. These institutions are legally separate and they have to go through separate approval processes before they are allowed to function.

The main supervisor is CONSAR, a specialized pension supervisor. CONSAR's approach to supervision is proactive because it has established mechanisms to prevent operating risks in the activity of the fund managers and fund investors, instead of acting after the violation has been produced.

The access to market is controlled by the supervisor by enforcing very strict capital and reserve requirements. AFORES and SIEFORES have to be licensed separately. To complete this process, they have to prepare and submit a very large number of documents attesting compliance with regulation, including a self-regulation program. This process is very similar to the one in place in Hungary.

CONSAR monitors detailed, transaction-based information reported daily by the supervised entities through a computerized information system that allows for integrated surveillance. In addition, since 2002, CONSAR uses the Value at Risk (VaR) method to monitor risk of the pension funds and tailor intervention. The VaR monitoring method captures the volatility of different risk factors that affect the investments of the SIEFORES. VaR is calculated daily by an independent consultant and is reported daily to CONSAR.

CONSAR's intervention activity is intensive and directive. There is at least one on-site visit per year for each entity, and CONSAR may request additional on-site visits at any time. The triggers for additional on-site inspections can be risk-analysis, sanctions, information from comptrollers, external auditors, and planning.¹⁰

The main corrections applied by CONSAR are fines.¹¹ These have a punitive role and are quite numerous. In 2002 there were 19910 corrections applied. CONSAR can also take administrative actions to correct bad behavior. Fines cannot exceed the equivalent of 5% of the paid-in capital and reserves of the company.

It is important to note a few key elements regarding the Mexican pension supervision approach. Since its creation, CONSAR has worked to develop mechanisms to prevent risks in the operation of the Afores and Siefores, and so it has moved away from acting after the violation have already been committed. It therefore moved from the reactive to the proactive side of the spectrum. CONSAR was able to update its supervision models from a surveillance of the correct accounting registries to an integral surveillance which analyzes processes through the introduction of advanced information technology.

While CONSAR collects a great deal of information, it does not focus on disclose that is primarily the responsibility of the fund administrators, the AFORES, who provide most of the information disclosure to members. They are required to have web-sites with

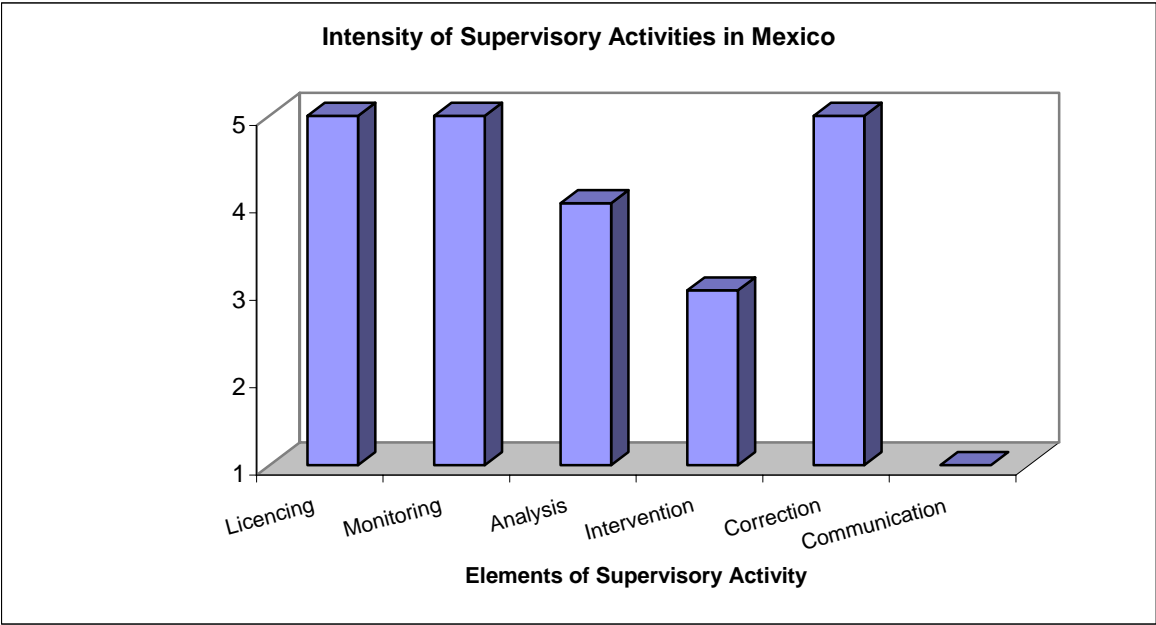
⁹ There are 13 AFORES in the Mexican system

¹⁰ In 2002 Consar made 74 on-site inspections, from which 56% were made to the Afores.

¹¹ Fines cannot exceed the equivalent of 5% of the paid-in capital and reserves of the company.

readily available info on each SIEFORE, general policies of risk management and indicators regarding the market, liquidity and credit risk and graphs, and charts with historic rates of return, risk-adjusted rate of return, and the administration fees charged to the workers. AFORES must publish on a monthly basis the breakdown of each of the SIEFORES portfolio in a newspaper with nation-wide distribution.

Figure 4



Box 3:**Value at Risk Model: Risk management and capital regulation tool for DC systems**

As defined contribution, privately managed pension provision arrangements expand across countries, the final retirement income becomes increasingly exposed to market risk, inherent for financial investment transactions. While considering investment choices to secure the long-term goals of retirement welfare, the administrators, managers and supervisors of pension funds have to mitigate a variety of risk categories: credit risk, market risk, liquidity risk, legal and operational risk, etc.

Value at Risk (VaR) models have been accepted by banking and insurance regulators as a standard tool to quantify risk and control exposure to market risk. VaR is defined as the maximum potential change in value of a portfolio of financial instruments, with a given probability over a certain time horizon. This estimation starts by marking to market all the assets in the portfolio and then, based on the probability distribution of the market returns, over a defined period of time, it estimates potential losses.

The motivation for this particular approach is that improper estimation of risk, at the underlying asset level, leads to sub-optimal capital allocation with severe consequences for the profitability or the institutions' financial stability.

Risk management techniques based on the Value at Risk approach are widespread in the banking and insurance sector. They are starting to become popular in the pension arena, in countries that have established solid defined contribution, privately managed pillars for retirement income provision. VaR can have many applications and it is used both for risk management and for regulatory purposes. The Basel Committee on Banking Supervision and the Bank for International Settlements call for financial institutions such as banks and investment funds to meet capital requirements based on VaR estimates.

The main purpose of introducing a VaR approach to risk management and capital regulation is to tie capital requirements more closely to the underlying risk of the assets in the portfolio. For pension funds and insurance companies this exercise is especially important since they operate on a mandate which stipulates that their capital shall be sufficient to cover future liabilities and claims, usually on a long-term time horizon.

Among the countries that have introduced risk management tools based on Value at Risk principles, Mexico is a prominent example. Portfolio composition and asset value is reported daily, at market value, allowing for close estimation of probability distributions for returns. Risk exposure is also managed with investment rules, that restrict asset categories; counterparty exposure limits and benchmarking of liquidity indicators. This approach replaced an older system that measured risk using average weighted maturity calculations. As VaR tools are introduced, the weight of these quantitative restrictions in the risk management tools portfolio is decreasing, allowing for a more market-linked and modern regulatory regime. Another country that is currently considering to implement a similar risk management approach is Hungary.

Chile

Saving for retirement in Chile is done primarily through a system of mandatory, defined contribution, private pension schemes where assets accumulate in individual accounts. Workers can also save for retirement in voluntary savings accounts, and the self-employed can contribute voluntarily to the private pension schemes offered by banks or insurance companies.

There is patrimonial and legal separation between the administrators of the funds (Administrators de Fondos de Pensiones – AFPs) and the fund themselves. Also, contributors can choose, with some restrictions, among the different AFP's .

The Superintendent of the Pension Fund Administrators (SAFP) is the specialized institution that regulates the establishment, structure, functions, and power of the pension fund administrators. It is an autonomous public body under the Ministry of Labor and Social Provision.

As in Mexico and Argentina, the Superintendent carries out a very detailed and intense screening process of the pension fund administrators before each is allowed to enter the market. Eligibility for a license is also contingent upon fulfilling conditions regarding capitalization, insurance, and management personnel.

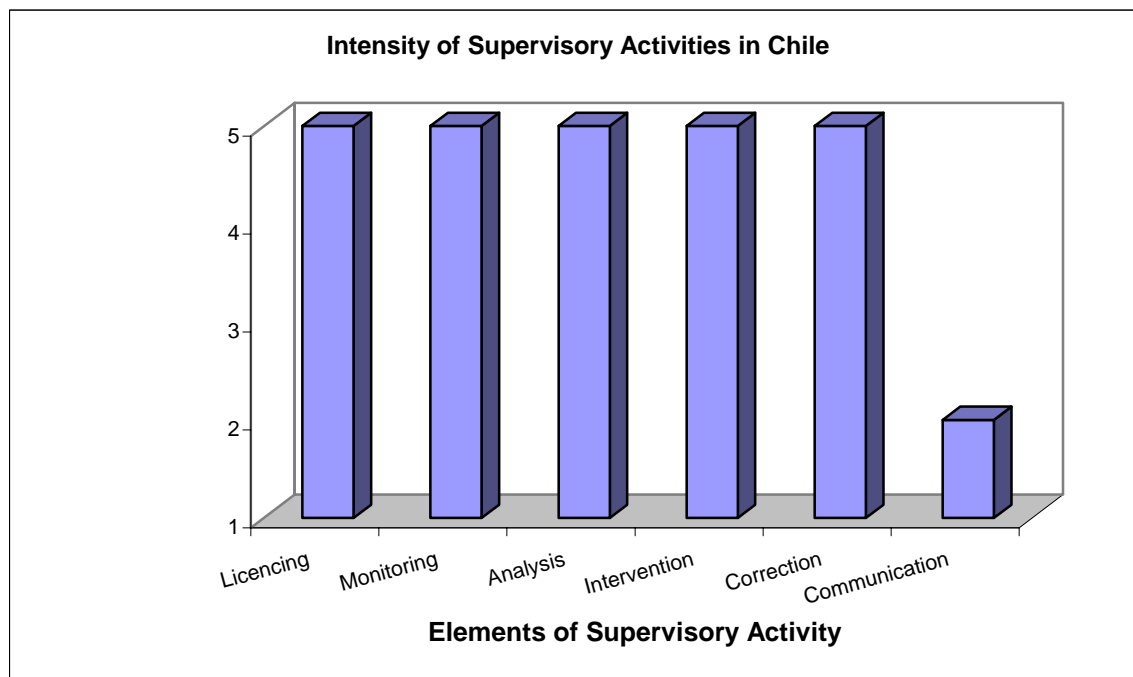
Since the activity of the pension fund administrators is heavily regulated, the Superintendent's actions are primarily focused on ensuring compliance with these regulations. Both the monitoring and the measurement and analysis functions are very intensive. Most of the analysis is done by the Risk Classification Commission established within the Superintendent and it consists of approving securities, assigning a risk classification to each of these securities, and also assessing the investments in foreign assets.

Intervention is also very intensive. The SAFP not only analyses the portfolio choices of the AFPs but it also takes part of the responsibility for investment by issuing approval for certain securities. Under these circumstances, the SAFP plays a proactive role in managing the risks associated with investment of the funds and not just in assessing those risks.

Communication with the supervised entities has relatively low intensity and is directive since it involves mostly regular reporting from the part of the AFPs about performance regarding real yield of investments and portfolio composition. SAFP has the power to approve or disapprove of investing in certain assets but the supervisor imposes the results of the monitoring and analysis process. Also, there are no legal rules for whistleblowers, so the main information source regarding non-compliance is the supervisor itself. This is why we consider the communication process to be directive. Communication with members falls within the responsibilities of the pension fund administrators.

The Superintendent for Pension Fund Administrators corrects instances of non-compliance by levying fines or initiating and supervising winding-up procedures. These kinds of corrections have a punitive character and serve as a deterrent for non-compliance.

Figure 5



Argentina

Argentina has an integrated pension system with a mixed public-private two-pillar structure. The second pillar has two components: a mandatory fully funded defined contribution plan, and a public, pay-as-you-go component. Employees can choose freely between the two components, but all workers must be enrolled in one of the mandatory plans. The pension funds are called FJP (Fondo de Jubilaciones y Pensiones) and are administered by the Administradoras de Fondos de Jubilaciones y Pensiones (AFJP). Pension fund assets are independent and separated from the AFJPs. The supervisory institution for the Argentine pension fund administrators is the SAFJP (Superintendencia de Administradoras de Fondos de Jubilaciones y Pensiones)

Like in Mexico and Chile, the pension market is very concentrated, with only 12 AFJP- (in December 2003) administering 46 billion pesos in pension assets¹². The costs of fund operation for these funds are very high. Regulation of the Argentine pension system has

¹² There was a process of concentration in the sector which had 24 administrators operating when the system began and 12 by the end of 2003. As of the end of 2003, nearly 70% of the contributors were affiliated with 4 AFJPs, with the largest one covering almost one quarter of the market. (Memoria Trimestral de la SAFJP).

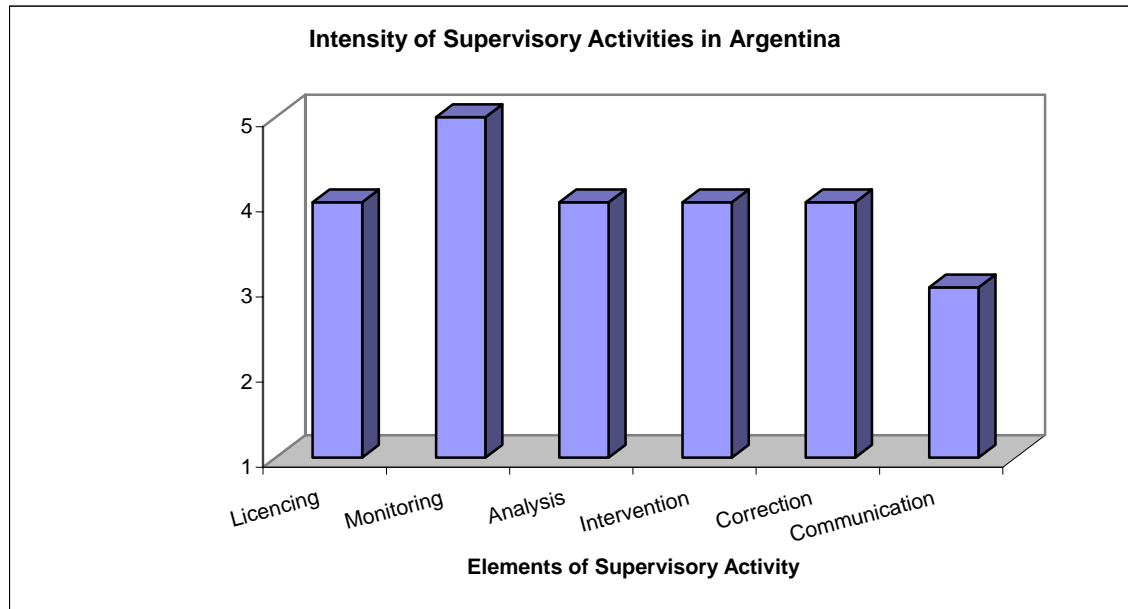
been very conservative with strict licensing procedures, restrictions on investments, special reserves, and minimum investment returns.

The monitoring activity conducted by the SAFJP is very intense and pro-active. The agency routinely examines information regarding the operation of the pension funds reported by, or requested from, the funds. The information it monitors is transaction-based. The supervisor reviews financial statements prepared by the fund administrators and matches this with information provided by the custodians, financial institutions, and the capital market. Transactions are valued at prices provided by the SAFJP based on the information provided by the market and valuation criteria established by the regulations. The supervisor has the right to request additional information and make both regular and ad-hoc inspections to enforce compliance.

The Argentine supervisor also checks if the funds are complying with the disclosure mechanisms to members or beneficiaries. It reviews the advertising plans prepared by the pension funds. All these activities require very intensive communication between the supervisor and the fund administrators, and the supervisor and the public. Every trimester, SAFJP makes public a comprehensive document containing information regarding the performance of the funds, licenses that have been approved or suspended, level of commissions, number of members and beneficiaries in each scheme, current value of the funds, and the distribution of investments.

SAFJP corrects non-compliance by levying fines and by enforcing compensatory mechanisms. For example, interventions would occur when an administrator calculates fees inaccurately and it must offer compensation to one or more members, or when fraud is committed in the affiliation of a member and the worker has to be returned to his or her original plan. Corrective procedures may be enforced by the supervisor when systemic weaknesses are observed in regard to one or more critical processes in a pension fund administrator. Therefore, the corrective elements of pension supervisor in Argentina are primarily punitive, but also have a remedial component. This is important to distinguish the Argentine corrective functions from the Chilean and Mexican ones that are predominantly punitive.

Figure 6



Hong Kong

Hong Kong has a three pillar pension system: a publicly managed, tax-financed social safety net; a mandatory, privately managed fully funded provident scheme, and a voluntary personal savings and insurance pillar. Within the mandatory provident scheme, a plan can be set up as a master-trust,¹³ governing multiple companies, an industry scheme for an entire sector, or as an employer-sponsored scheme.

The supervisory authority in Hong Kong is the Mandatory Provident Fund Authority (MPFA), established in 1998. All schemes are managed as individual accounts and must be set up under trust, with trustees approved by the Mandatory Provident Fund Schemes Authority.

The number of privately managed schemes in Hong Kong is much smaller than in other countries with pension regulation based on Trust Law and the number of mandatory reporting requirements and adequacy criteria is correspondingly much higher, but the market can still be described as an open one.

There are no formal licensing procedures apart from the approval of trustees, but the MPFA monitors and validates compliance with capital adequacy requirements that are in place.

¹³ In Hong Kong there are 299 schemes approved as Master Trust Schemes, 12 Industry Schemes and 10 employer sponsored schemes in the Mandatory Provident Fund pillar out of 48 existing in 2004.

MPFA monitoring function is moderately intense.¹⁴ Although the volume of information reported to the supervisor is fairly high, the trustees and auditors serve as an intermediary layer for monitoring this information. Master trusts, industry schemes, and employer-sponsored schemes have to submit trustee returns annually containing mainly financial information; a statement with policy information and a report on internal controls that includes assessments from independent auditors regarding general performance as well as compliance with capital requirements. Trustees must also publish annually a consolidated report that is submitted to the MPFA and is accessible to any member upon request. Communication to members is generally the responsibility of the trustees. The supervisor ensures transparency by making available daily information about trustees and correction activities on its web-site.

Apart from these traditional sources of information, MPFA also relies on whistleblowers (usually auditors) that must report to the supervisor whenever they become aware of non-compliance. With regard to measurement and analysis, very little is done by the supervisor. This activity falls under the responsibility of the trustees and auditors.

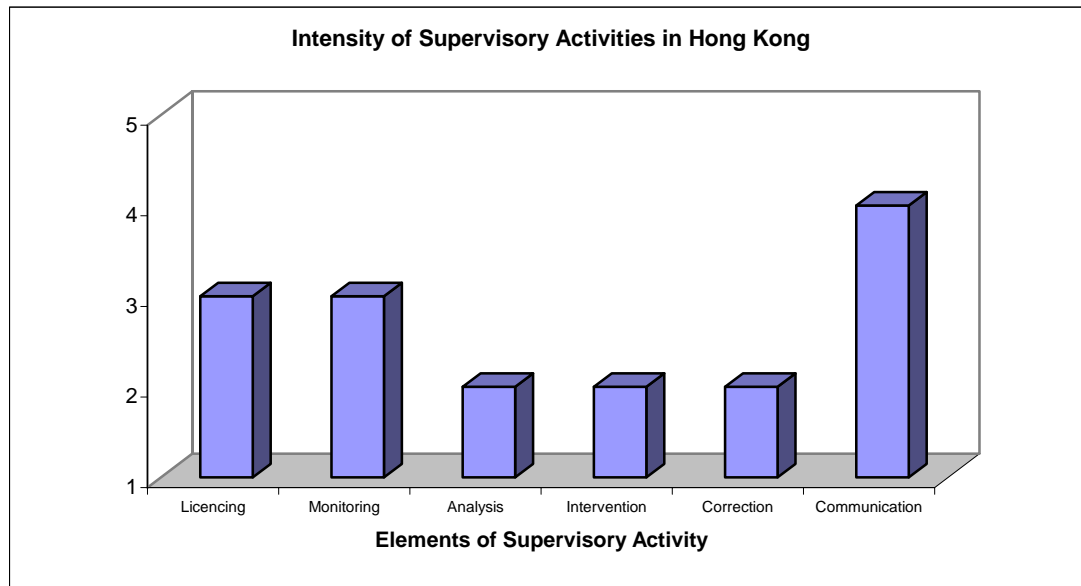
Investigations and other types of interventions occur whenever the supervisor believes there has been non-compliance. MPFA suspends or withdraws approval for trustees when the assessed non-compliance exceeds a certain limit. The supervisor can also initiate and supervise the procedure of scheme wind-up whenever a pension scheme has been unable to fulfill its responsibilities towards members.

This approach toward supervision, particularly in regard to interventions and the frequency of interactions with funds suggests a re-active approach that is typical of systems in which pension funds are established under trust law.

Among the countries included in our analysis, the activities of the Mandatory Provident Fund Authority in Hong Kong appear to most closely resemble those carried out by Australian Prudential and Regulatory Authority, with the exception of the monitoring activity. The MPFA monitors more information in a more pro-active way than its Australian counterpart.

¹⁴ Trustees have to submit annual balance sheets, profit and loss accounts, as well as auditor's reports and director's report. They also have to submit an annual statement of any changes of significance in the performance of service providers or changes in the investment policy.

Figure 7



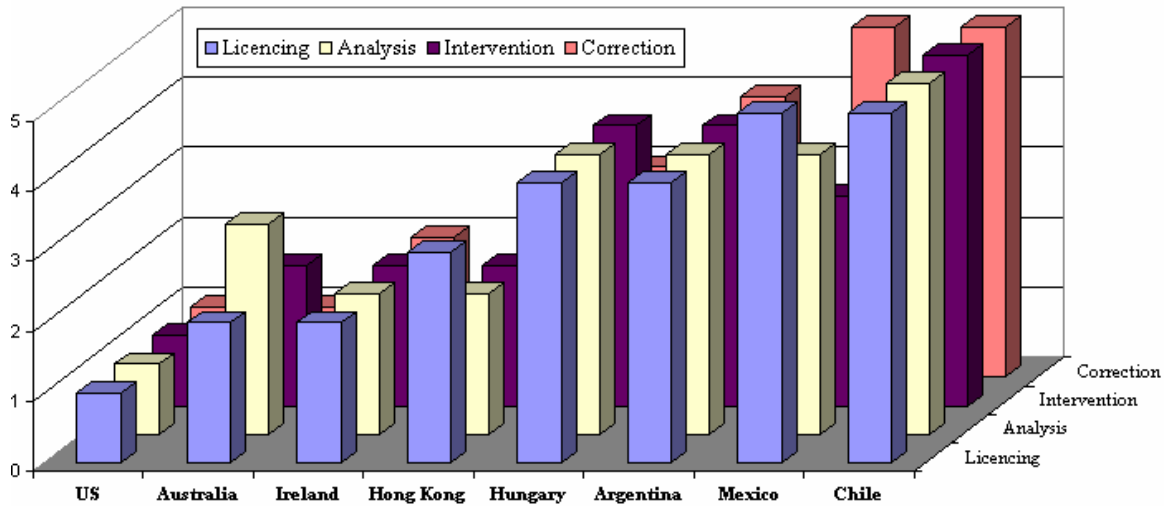
Comparative Analysis

Presence of Supervisory Styles. The most basic question regarding the classification of supervisory systems is whether any consistent patterns that support an overall summary characterization of system are discernable, whether there are discernible “styles” of supervision. The scales used to assign values to each element are broadly based on the intensity (i.e. the depth and frequency) of the activities. The most general hypothesis to be evaluated is whether supervisory systems may be deemed to be consistently high or lower intensity among the various primary elements examined. If the components of supervisory systems are fall consistently along such a scale they can be more readily compared to a variety of factors related to the environment in which they operate to formulate some explanatory relationships. High levels of variation among the attributes would make such relationships far less meaningful.

Two groupings of the elements indicate that the countries examined exhibit consistent supervisory “styles”. Figure 8 below shows the distribution of the elements related to activities that are associated with the nature and intensity of four of the categories of activities, those associated with direct interventions in the activities of funds. The clear pattern supports the proposition that there is consistency in the degree of intensity within various systems, allowing them to be characterized as generally proactive or reactive. This, of course, simply confirms that these supervisory systems are, at least by these measures, relatively consistent in their approach, which is to be expected if they are to be able to function as a cohesive program. It is important to note that the countries appear to fall across a continuum of “styles” rather than clustering at the two extremes. The United States and Australia can be characterized as essentially re-active systems, while Chile and

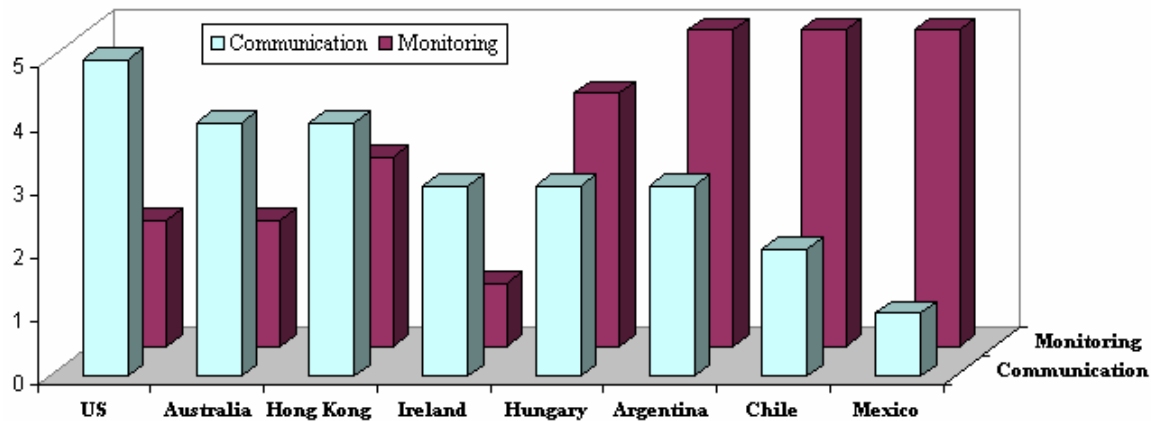
Mexico are strongly interventionist and pro-active in character with Hungary and Hong Kong occupying a middle ground.

Figure 8. Correlation among Primary Elements of Pension Supervision



The element that is rather strongly negatively correlated with others is communication. The prevalence of communication activities apparently increases in proportion to the degree to which other activities are re-active or exception based. This is intuitively logical because education and technical assistance are a likely adjunct to programs that rely on external actors and markets forces to induce compliance with regulations. They are perhaps best perceived as a type of agency costs of the regulator. Figure 9 below shows the relationship between monitoring activities and communication where this connection is perhaps most direct, however, it applies to nearly all of the other elements as well. This leads to the conclusion that supervisory systems have a broad distribution of characteristics patterns or styles that range from a largely re-active approach with a strong emphasis on communication, to strongly interventionist approach with considerably less effort devoted to providing information to the regulated entities.

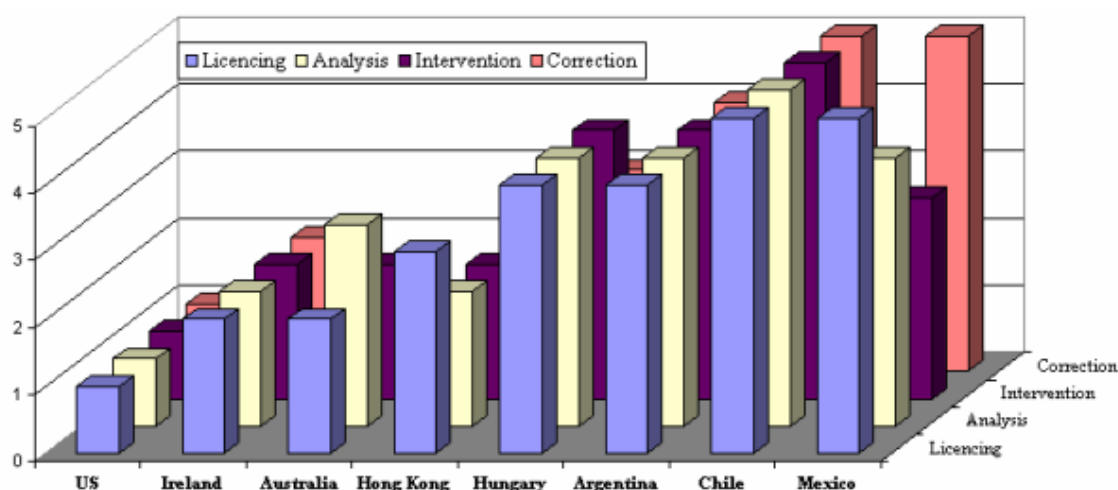
Figure 9 Correlation Among Primary Elements of Pension Supervision



The presence of relatively consistent patterns enables their comparison to factors that define the environment or context in which the supervisor operates. This permits an assessment of whether supervisory “styles” appear to be related to the legal and economic environment. Potential environmental factors that might determine an approach to supervision include the overall level of economic development of the country, the degree to which capital markets are developed, the capacity for reliance on legal procedures and private actions and the legal traditions of the country. The pathways of causality among these factors are potentially complex. These factors may simply constrain the feasible design of the pension system or they may more narrowly determine how any system would be supervised within such an environment. Whether the relationships are more general or specific to pension supervision, an initial evaluation of these relationships provides useful insights on the alignment of approaches to supervision and the environment in which they operate.

Level of Development. The simplest of these comparisons is the relationship between overall level of economic development and supervision. This is considered by comparing per capita GDP to the characteristics of the pension supervision. Figure 10 below shows the scores for the main operating characteristics of the sample of countries arrayed from left to right in relation to the per capita GDP of the country.

Figure 10 Primary Elements of Supervision and GDP/Head.



GDP/Head in \$ at PPP							
US	Ireland	Australia	Hong Kong	Hungary	Argentina	Chile	Mexico
\$36,433	\$32,220	\$27,566	\$26,832	\$13,485	\$10,690	\$10,373	\$9,080

Data Source: EIU Country Database. Series form 2002

This analysis indicates a strong relationship between overall level of economic development and the approach to private pension supervision. Countries with the highest income levels are associated with supervisory approaches that impose fewer entry barriers and qualifications for pension funds and are less intensive and intervention oriented. Those with a lower per capita GDP are associated with the more pro-active methods and less likely to rely on market discipline to control the pension systems. Although not shown on the graph, as indicated in Figure 9, the countries with higher levels of development are more oriented toward a reliance on communication in their methods.

There are a variety of possible explanations for this relationship. The wealthier countries tend to provide more widely available social safety nets and universal social security systems so they are likely to be able to sustain greater levels of risk in their private pension systems. Private pensions are consequently likely to be a less significant proportion of overall household wealth in these countries, making them better able to take risk in search of higher returns therefore leading to less restrictive supervisory regimes. Lower income countries, especially those that have established private pensions to replace or supplement public programs for fiscal reasons, have a much lower capacity to sustain such risk. They are also likely to have large fiscal exposure through the various kinds of public guarantees usually required to enact the reforms.

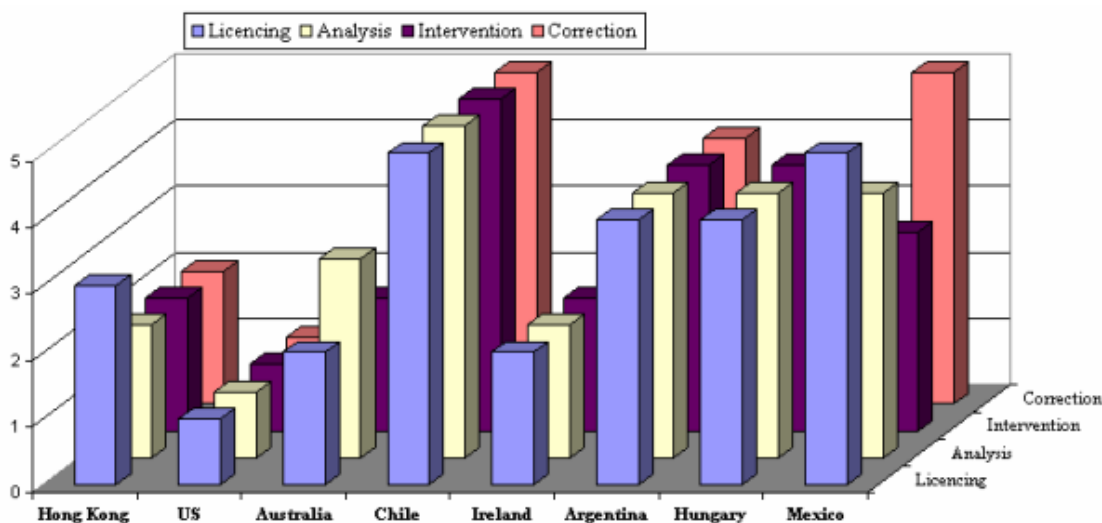
To a significant degree, the relationship is likely to be a result of the underlying nature of the pension system and the markets in which they operate. The countries with the higher per capita income levels tend to have voluntary occupational systems that operate as second tier forms of financial intermediation. The pension funds in these countries are

investing their assets in highly regulated financial markets, or in pooled investment products managed by other regulated institutions. The business of fund management is more developed and the supervisor is able to utilize this primary regulation to diminish the degree to which interventions are required.

In contrast, the lower income countries may not have the same institutional foundation to rely on and, therefore, must manage these risks using a more pro-active approach. The following sections examine some of these possible relationships in more detail.

Capital Market Development. The ratio of stock market capitalization to GDP provides a measure of the “depth” of financial markets and financial market development (Levine, et al, 1999). Figure 11 shows countries ordered according to this measure. The expectation would be that in well developed markets, there are a large number of participants and a high level of primary or direct regulation of financial products. The competition among these actors fuels institutional development and creates venues for third party oversight that can take the form of comprehensive accounting rules or established auditing practices. In such systems, all of these layers of financial intermediation and professional affiliations are governed by primary market regulations that support less intensive supervisory oversight. Also, the high level of integration between the different branches of the financial industry allow for the development of fungible financial professionals that limit the need for specialized pension supervision.

Figure 11 Primary Elements of Supervision and Financial Market Development (measured as market capitalization of traded companies to GDP)



Stock Market Capitalization to GDP							
Hong Kong	US	Australia	Chile	Ireland	Argentina	Hungary	Mexico
2.99	1.23	0.86	0.75	0.65	0.19	0.11	0.09

Data Source: Beck, Demirguc-Kunt and Levine

This indicates that although in general there is a relationship between the depth of capital markets and approaches to supervision it does not fully explain the patterns. Some of the countries with relatively high levels of market depth such as Chile have approaches to supervision that are more pro-active, while others with thinner markets, such as Ireland, have a less intensive approach, indicating that other factors are likely to influence patterns of supervision as well. Some less quantitative descriptors of the environment are, therefore, also potentially useful in understanding the impact of the environment in which pension funds operate on supervisory techniques.

Legal Systems and the “Rule of Law” As already mentioned in the introduction, Levine (1998,1999) and Levine Layaza and Beck (1999) trace the relationship of legal systems, financial development to economic growth finding that legal origin accounts for cross-country differences in the development of bank and stock markets. Pension supervision systems are similarly grounded in the legal framework within which they operate which constitutes an environmental factor that is likely to be of similar importance (and closely related to) the overall level of economic development. Figure 12 below divides the legal system for the countries considered between those that are based on systems of civil code and those derived primarily from English Common Law.

Figure 12 Foundations of Legal Systems in the sampled countries:

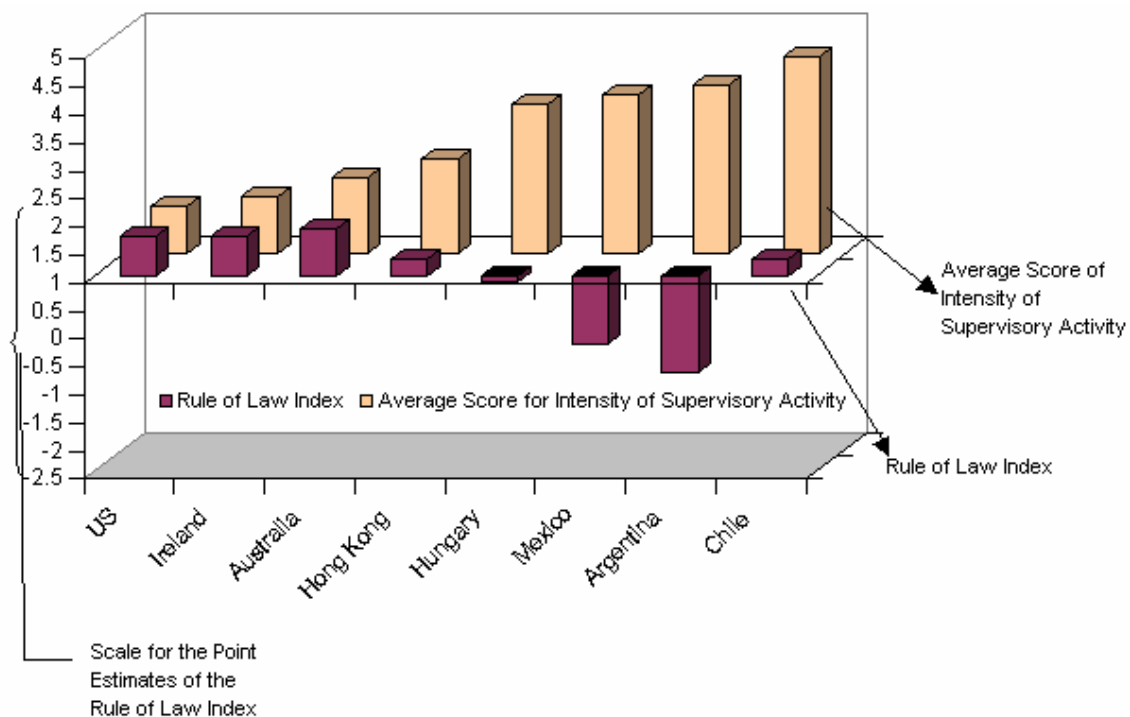
Common Law	Civil Code
Australia	Argentina
Hong Kong	Chile
Ireland	Mexico
US	Hungary

A comparison of the characteristics of supervisory practices outlined earlier with the type of legal system indicates that countries that share legal traditions based in English Common Law rely heavily on trustees and whistle blowers in the exercise of pension supervisory activities. These are entities that are external to the supervisory authority and subject to a regulatory framework that relies heavily on the application of a prudent person standard. This process oriented standard that imposes responsibilities (and liability) on parties assigned specific duties in the management of pension funds is another potential factor that explains the low levels of intervention, the negotiated and corrective oriented nature of sanctions observed in these systems. Reliance on these parties for signals of non-compliance shifts much of the monitoring and analysis activities from the supervisor to private third parties. This is a possible explanation of the low levels of monitoring and analysis done in the house in countries where the legal system is based on English Common Law.

The opposite is true for countries that base their legal systems on rule based civil codes (Argentina; Mexico; Chile) that are slower to adapt to changes in the economic and social environment. (Beck and Levine, 2004) pension systems based in civil code are those which typically have a more intensive and directive character and a punitive rather than compensatory approach to corrective actions and sanctions.

“Rule of law”, the extent to which formal legal systems are consistent and reliable, also potentially determines the extent to which supervisors are able to function in a more re-active manner and to rely on markets and third parties to undertake some of the basic monitoring and analysis functions. To test this hypothesis the sample of countries are compared to the relevant measure from a “Rule of Law” indicator developed by Kaufmann and Kraay (2003). This indicator is derived from statistical compilation of various measures of the quality of legal systems and governance. Even though the countries relative positions displayed in Figure 16 on the “Rule of Law” indicator are not precise enough to sustain an exact country ranking, it does provide some insights to the connections between style and intensity of supervision.

Figure 13 Rule of Law Index and Average Score of Intensity of Supervisory Activity



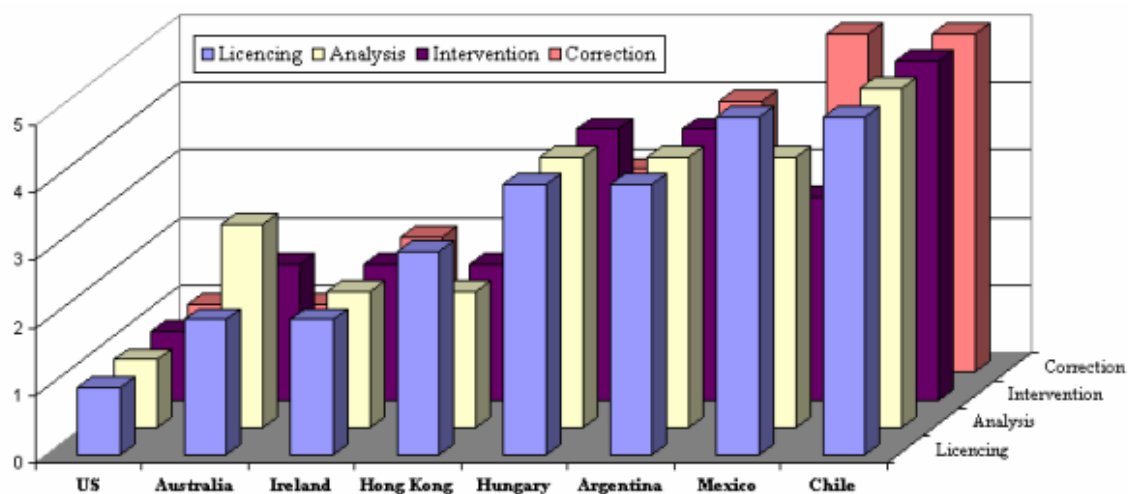
Source: Daniel Kaufmann; Aart Kraay; Massimo Mastruzzi, “Governance Matters III: Governance Indicators for 1996-2002”, The World Bank, 2003.

This indicates that higher levels of governance and rule of law are associated with supervisors that are less intense, directive and rely more on third party oversight and market mechanisms. The capacity to pursue compliance issues through the courts in a reliable manner would enable supervisors to function in a more re-active and less intensive manner because they will have a greater capacity to achieve correction of problems after the fact and to make financial recoveries on behalf of the members of funds. This approach is buttressed by the ability to rely extensively on private rights of action to enforce compliance. High levels of governance and “rule of law” create opportunities for members of the pension funds to pursue their individual rights of action

in a negotiated process of litigation. This can reduce the need to proactively enforce detailed protective mechanisms through intensive supervision activities.

Number of Pension Funds. A key determinant of the capacity of a supervisor to engage in the pro-active methods is the number of entities they supervise. Figure 14 shows the supervisory systems in relation to three groupings of the number of pension funds. The largest, those with over 100,000 funds have responsibility for a number of entities that are many multiples of the number of staff employed by the supervisor. Some of these have more than 1,000 pension funds within their jurisdiction for each member of their staff. The middle grouping represents ratios of staffing to funds that are below ten. Those with a relatively small number of funds, less than 15, have more staff than funds within for which they are responsible.

Figure 14 Primary Elements of Supervision and the Size of the Market for Privately Managed, Funded Retirement Systems.



Over 100,000 funds

US
Australia
Ireland

Under 500 funds

Hong Kong
Hungary

Under 15 funds

Argentina
Mexico
Chile

The analysis indicates that there is an association with the number of funds and the approach to supervision. Only the countries with a small number of funds engage in the more intensive methods, while those with a large number of funds indicate a pattern of less intensive interventions and greater reliance on communication activities. This seems to provide an explanation that reconciles some of the variations found in the comparison with the depth of financial markets. Hong Kong and Chile, for example, have more developed financial markets but a relatively small number of funds. This seems to be

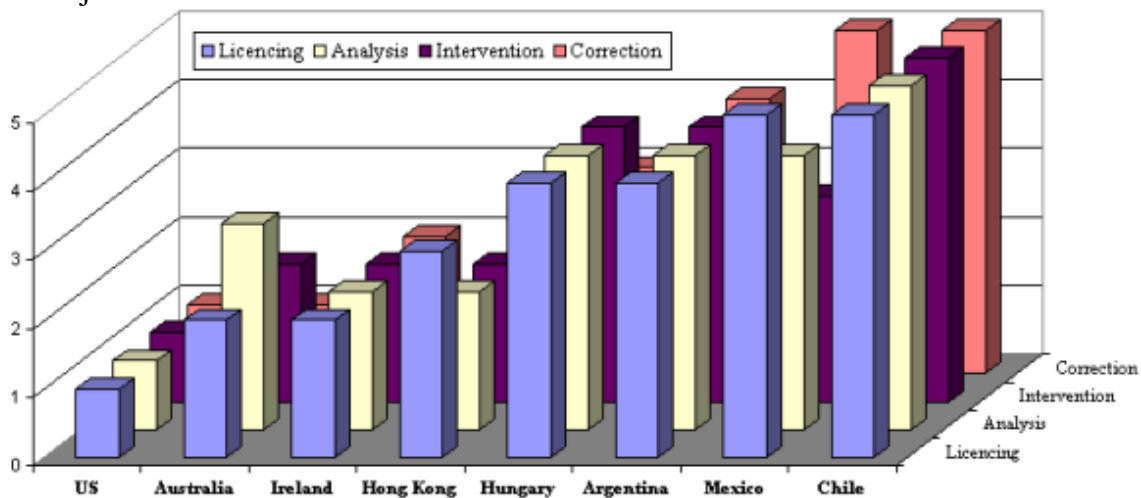
associated with a greater level of intensity of supervision than might be anticipated solely on the basis of the depth of their financial markets.

Adding measures of financial market depth and the potential scope of responsibility of a pension supervisor provides some further insights into the factors that are associated with the variations in supervisory methods. These lend credence to the perception that countries with market-based, financially developed economies can rely on these markets to protect the rights of the pension plan members. Therefore they can afford to have a supervision style that is re-active, with low intensity intervention; exception-based analysis and remedial correction.

Mandatory and Voluntary Systems. The unifying concept for virtually all measures of supervision is the need to manage and limit risks. One of the primary determinants of the capacity to bear risk is the whether a pension system is imposed on the population and represents the primary source of retirement income (resulting in a very low risk tolerance) or is a voluntary addition to the retirement savings of individuals who therefore may be willing to trade off risk for higher potential returns and flexibility. A key design issue for voluntary pension systems are the level of direct and opportunity costs associated with very intensive and pro-active supervisory methods. Imposing high supervisory burdens may limit the willingness of employers and others to sponsor or manage pension funds. Funds managed on a collective basis in which assets and management are pooled may also be able to more effectively manage risk without the need for intensive supervision. Figure 15 below arrays the supervisory methods in three groups: voluntary occupational systems, mandatory occupational systems, and mandatory individual pension systems.

Figure 15 Type of Retirement Income Provision System: Mandatory versus Voluntary

ThisThj



Voluntary Occupational

US
Ireland

Mandatory Occupational

Hong Kong
Australia

Mandatory Personal

Chile
Mexico
Argentina
Hungary

This indicates that there is a relationship between the intensity measure of the elements of supervision and the underlying nature of the pension system. Occupational systems in the US, Australia and Ireland are generally less intensive in their approach while the mandatory systems of Latin America exhibit the opposite pattern.

Conclusions

A variety of observations and conclusions may be drawn from the description and analysis of these patterns of private pension supervision. At the most general level, there is considerable variation in the way that each of the primary elements of pension supervision is implemented. The individual systems, however, exhibit relatively consistent “styles” when their component elements are placed on a scale of relative intensity. This supports the perception that there are a range of supervisory approaches that vary from the very intensive, pro-active and directive approach of Chile to the reactive, exception based style of the United States. More significantly, it illustrates that there is a continuum of styles that fall within this spectrum. This suggests that rather than one or two normative models there are a variety of factors that influence and determine an appropriate method of supervision.

Evaluating the relationships between possible explanatory factors and the patterns of the intensity of supervision, however, is more problematic. The limited sample of countries examined and subjective nature of any scoring method limit observations to the

consideration of potential relationship rather than the development of determinative formulas. Difficulties in assessing the pathways of possible causality accentuate the limitations of explanatory models as well. It is very hard to differentiate between factors that may determine the organization and structure of the funded pension system from those that may influence the nature of the supervision applied to it. It is likely that various economic and legal environments simultaneously lend themselves to certain types of pension funds and strongly influence the type of supervision that is feasible or effective. For these reasons, while the observations about relationships between conditions and supervision provide useful insights into the process of matching form to function and aligning methods to the realities of prevailing conditions, their application to the design of supervisory techniques and institutions cannot be approached in a predictive or mechanistic fashion.

Keeping in mind these important caveats, a number of useful observations about context and supervision can be derived from the analysis. Increasing levels of per capita GDP and the depth of capital markets are negatively correlated with the intensity of supervisory practices. The first of these, a broad proxy for overall economic development, provides more of a reference point than explanatory power because of its linkage to all of the other potential influences examined. More developed countries nearly always have commensurate development of financial markets and legal institutions and are much more likely to be able to support voluntary pensions or rely on employers to manage occupational programs. The relationship to capital market development, however, provides some insights into the conditions required for supervisory systems to leverage various forms of other primary market oversight and formulate their activities as a form of tertiary supervision. This results in the focus on monitoring and exception only interventions observed in these settings. It also enables supervisors to rely on private third party monitoring mechanisms such as auditors and actuaries.

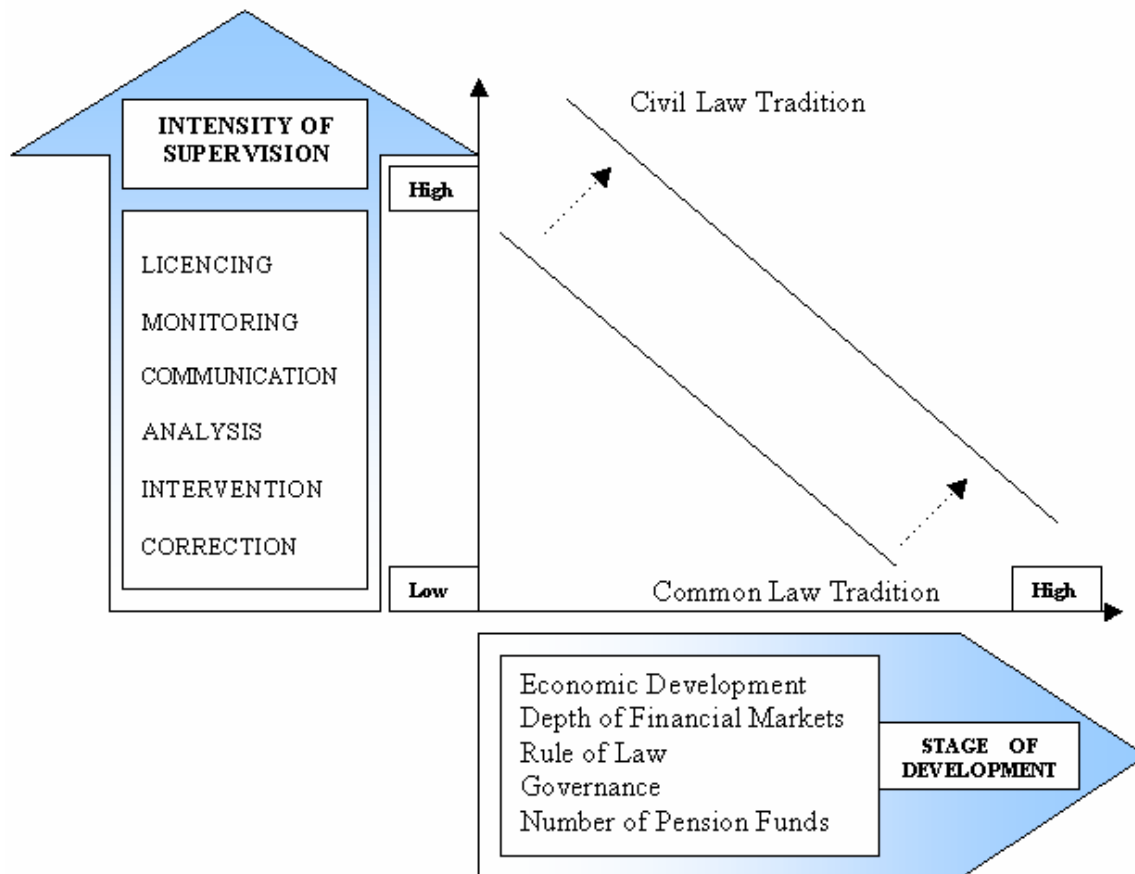
The legal environment exerts a similar influence on the supervisory methods. Conditions in which there is a strong reliance on rule of law and the integrity of governance in public and private institutions create the capacity to relax licensing and other entry barriers and rely on indirect and less frequent forms of monitoring and intervention. Conversely, environments characterized by lower respect for the rule of law require more intervention by public authorities. An important factor in this process is likely to be the ability to rely on disclosure of information and private rights of action as a significant adjunct to compliance enforcement by public authorities. The capacity to utilize third parties and rely on private actions through a process of civil justice, perhaps even simply the presence and confidence in a commercial code of conduct and private adjudication is a likely common attribute to both the economic and legal factors at play in this process.

Environmental factors exert similar influence on the structure of the pension system that also dictate the form and intensity of supervision. Countries with mandatory individual systems are associated with very restrictive and intensive approaches to supervision. Not coincidentally, these same countries have systems with a very small number of funds. Countries with strong rule of law and governance have occupational arrangements with a large number of funds. The ability to overcome the agency and moral hazard challenges required to sustain employer managed systems are directly linked to the ability to supervise these in a less pro-active manner. No doubt the imperative to limit regulatory

burden and compliance costs in a voluntary system are key factors that strengthen this relationship.

Taken together these factors suggest the relationship of context and supervision illustrated schematically below:

Figure 16 Intensity of Supervision



This suggests that the conditions shown on the horizontal axis interact to influence the nature of the supervisory style observed in the different countries. Countries with higher levels of per capita income and financial market development are associated with stronger rule of law, governance institutions, voluntary pension systems and occupational sponsorship. These factors combine in a variety of ways that lead to supervisory systems that are more open, less pro-active and function in a less directive manner. These factors both influence and reflect the underlying nature of the pension system.

The degree to which these factors will enable supervisory systems to function in a less intensive manner however is broadly influenced by the underlying legal and cultural environment as is depicted by the parallel lines for two basic types of legal systems. An

equivalent set of conditions in a civil law environment is likely to lead to more intensive style of supervision than might be present in the alternative. This is both because the common law system are associated with countries that have more developed capital markets and voluntary occupational systems but also because they are more conducive to flexible regulatory regimes, negotiated processes and perhaps most importantly the capacity to utilize third parties and private rights of action as compliance enforcement tools.

This framework provides some useful observations about the general nature of these relationships and potentially enables policy makers to assess where they may reside along the range of certain characteristics of the environment that the supervisory system will function. There are, however, key limits to the applicability of these relationships that may shift significantly the position that a given country might otherwise be expected to occupy.

One of the most important of these is the legal culture and tradition. Countries that have adopted an Anglo axon common law may be far more conducive to more open and less directive systems than might otherwise be anticipated by the economic conditions. Conversely very highly developed countries with a civil code tradition may be constrained in their ability to adopt the more negotiated systems and reliance on private rights of actions that such a model would predict

In addition, such a model is relatively static and may provide more insights into the relevance of the initial conditions for a pension system than the dynamics of its evolution. At this point the experience with the way in which supervisory systems evolve with the conditions around them is far too limited to offer any assessment about whether countries will maintain these relationships as their economies and pension systems develop.

The evaluation of these relationships does provide a useful framework, some relevant points of reference, and valuable insights into the importance of prevailing conditions on the design and implementation of private pension supervision. It illuminates the extent to which the intensity and form of supervisory activities are a function of the matching of methods to environment, directing attention to this matching process rather than the formulation of normative models in the development of guidelines for best practices. By doing so, it provides a useful starting point for the introduction of new systems in the continuing reform process and some guideposts for existing supervisors to consider their future course.

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